Akira Nishitani, PhD Thesis Abstract

Typological Classification and the Chronology of Iron Age pottery in central-southern Britain

Pottery has been one of the most popular artefacts in the study of the Iron Age in central-southern Britain because of its advantages of commonality, durability and volume. Pottery studies have provided important clues for understanding the society and culture in the region. These studies also have contributed to constructing the chronologies of the regions. However, pottery studies have tended to be unpopular in recent decades. Despite their crucial importance to the field of Iron Age archaeology, ceramic studies of classification and chronology have not been adequately developed. The lack of these places all related studies at a disadvantage, which can be clearly identified in recent works of the region.

This thesis re-examines the existing fundamental studies of Iron Age pottery. The method of classification and chronology of pottery uses statistical analyses, considering the importance of objectivity and actual data, which appears to be lacking in the existing studies. According to this approach, a new framework of the Iron Age pottery is created. The analysis also addresses other important issues for ceramic studies including classification, stratigraphy and absolute dating. These issues are discussed in order to produce reliable studies in the future by providing useful approaches to ceramic chronology. Most importantly, this thesis aims to emphasise the importance of the classification and chronology of pottery and to encourage the continuous re-examination of these studies.

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Declaration

None of the material in this thesis has been previously submitted for a degree in this or any other university. This thesis is the result of my own work.

Statement of Copyright

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Chapter 1

Introduction

1.1 Introduction

Analysis of artefacts, sites and environments are necessary for reconstructing human behaviours and societies in prehistory. In other words, prehistoric archaeology basically relies on these approaches. When analysing artefacts, classification, which can affect assessment of sites, is one of the main studies and should be the foundation of archaeological methods. This is derived from other disciplines based on classifications of objects and terminologies and their subsequent interpretations. V. Gordon Childe (1956: 12-3) noted that:

> "*Archaeology begins as a classificatory science, as did botany or geology. Only after classifying his data can the archaeologist begin to interpret them, to extract history from them*".

According to this principle, classification studies should continue to be addressed and developed, even if various theoretical and methodological approaches are created and if new interpretations are presented.

Pottery has been studied as one of the most useful artefacts for considering prehistory after the Neolithic Age. This is due to its commonality, durability and volume in many regions when compared with other stone and metal materials. That pottery has a number of attributes, like shapes, decoration patterns, manufacturing techniques and raw materials, is also its advantage (*cf.* Shepard 1956; Orton *et al.* 1993). Consequently, pottery studies have contributed to understanding of a variety of prehistoric aspects: culture (function, use and meaning), economy (production and distribution) and society (interaction between regions and regional organisation) (*cf.* Rice 1987; Sinopoli 1991). Furthermore, pottery has played an important role in constructing chronologies in prehistoric studies (Willis 2002: 4; *cf.* Barrett 1980: 297).

It should be remembered that these contributions are based on classifications of pottery, it would have been difficult for them to arise without such work taking place. Additionally, any interesting interpretations of artefacts, sites and other social aspects can be changed, depending on pottery classification, as they often rely upon ceramic chronologies. This demonstrates the importance of ceramic classifications and chronologies to prehistoric studies.

1.2 Aims and objectives

The research will focus on re-examining classifications and chronologies of Iron Age pottery in central-southern Britain. It will also consider the properties of Iron Age pottery, considering the context and circumstances of other archaeological evidence and approaches. This aims to revaluate and stimulate analysis of pottery and other artefacts for the development of detailed and reliable studies.

As discussed below, classifications and chronologies of Iron Age pottery have been inadequately addressed over the recent decades, creating some problems. Firstly, in order to identify key issues, reviews of existing ceramic studies will be conducted in both a broader and a specific context. This will also lead to the identification of subordinate issues on current studies of pottery. Secondly, classification methods appropriate for Iron Age pottery will be sought after detailed examinations of problems with existing approaches. Based on these potential methods, case studies for classifications of pottery from central-southern Britain will be undertaken. According to the classifications, their chronological frameworks will be considered through both relative and absolute dates. This is followed by examinations of ceramic relations between the case study sites. Finally, issues derived from the case studies will be discussed for the development of ceramic studies, especially in terms of the construction of ceramic chronologies. This can also be useful for studies of other artefacts and sites. In conclusion, the future prospects of ceramic studies will be presented.

1.3 Structure of this study

This study is composed of eight chapters excluding the introduction. In Chapter 2, the history of theoretical studies in archaeology is broadly reviewed, focusing on prehistoric pottery studies. This demonstrates key issues for ceramic studies in a theoretical context, especially in terms of classification and chronology. This reveals how approaches to ceramic studies have changed and which themes have tended to be overlooked. This understanding allows us to re-evaluate existing approaches including traditional studies.

Chapter 3 focuses on practical studies of pottery in Iron Age Britain, especially those of chronological frameworks. It also explores which aspects of the pottery have been addressed, identifying the recent study trend and considering what types of ceramic studies are needed. In the final section, the spatial and chronological limits for this study are presented which consider the history of ceramic studies in Iron Age Britain and the availability of appropriate ceramic data.

Chapter 4 firstly reviews current typological studies of pottery, revealing its fundamental approaches. Secondly, a conceptual structure of ceramic assemblages is presented, based upon the *Yayoi* pottery studies in Japan. This should be useful for understanding complex assemblages. Thirdly, a review of classification studies of British Iron Age pottery is performed in order to identify influential methods and schemes in Iron Age studies. One such example is Cunliffe's approach, especially in central-southern Britain, thus they are assessed in detail to ascertain if the approaches are methodologically and practically valid. Finally, the basic approaches adopted in this study will be assessed in terms of problems with current approaches to typological classification of Iron Age pottery.

Chapter 5 will explore practical methods for typological classification of Iron Age pottery using actual ceramic materials. For this purpose, large amounts of ceramics from Hengistbury Head in Dorset are analysed. Though descriptive approaches are used, this analysis is aimed at classifying ceramics objectively and considering realistic circumstances of the available materials. The results of this analysis are presented in detail and then, the main types of vessels are selected to allow an easy understanding of the assemblages' characteristics. This is followed by examinations of the vessels' chronological frameworks. Consequently, the methods explored in this case study are established for application to ceramics from other sites in the region.

Further case studies are addressed for both testing the effectiveness of the methods and establishing individual ceramic frameworks in Chapter 6. According to the study results, the ceramic frameworks are compared between the case study sites in order to reconstruct the regional ceramic scheme. The sites are also examined for relationships between site types and sizes and specific ceramic factors. Consequently, the comparisons will present both the chronological and spatial aspects of the region. Furthermore, a number of issues on ceramics and related archaeological data result from the case studies which will be discussed in the following chapter.

Chapter 7 discusses two issues revealed in the case studies. Firstly, two issues on stratigraphy based on data from site excavations are discussed. The first is data presentation, which is crucial for allowing chronological studies of artefacts and sites to be developed. Existing methods of presentation are reviewed and improvements are proposed. The second issue relates to residuality and deposition of artefacts which can complicate their relative relations in chronology. Potential research is considered after discussion of this issue. Data on absolute dates is interrogated to identify its availability and relevance to current situations in terms of both historical cross-dating and physical and chemical scientific dating. Issues with various methods and their applications are also discussed. Based on these examinations, potential approaches useful for absolute dating of pottery are explored.

Finally, the conclusion of this study will be presented in Chapter 8. It attempts to stress crucial problems with the fundamental studies of regional pottery to allow for their proper development. This chapter also highlights prospective approaches and manners for future studies.

Chapter 2

Prehistoric pottery studies in theoretical context

2.1 Introduction

Pottery in prehistory was a basic instrument of human lives, but now it is one of the fundamental materials for present archaeologists. Pottery tends to survive better than metal and organic materials and is a common find on prehistoric sites (*e.g.* Pollard and Heron 1996: 104; Skibo 1999: 1; Millett 2003: 157). Additionally, it has an advantage in the quantity available from archaeological sites (*e.g.* Jones 1979: 1; Elsdon 1989: 7; Rice 1996a: 138). These characteristics imply that pottery can provide us with more information than other artefacts. Pottery thus allows us to consider a number of themes involving culture, religion, economy, and society and how these changed (*e.g.* Renfrew 1977; van der Leeuw and Pritchard 1984; Rice 1996ab; Skibo and Feinman 1999; Woodward and Hill 2002). For this reason, prehistoric archaeologists have heavily utilised ceramics as the main material in archaeological study.

Pottery studies have a long history from the earliest days of archaeology (*e.g.* Trigger 1989: 4-12). Clive Orton *et al.* (1993: 3) summarised the important classifications of existing pottery studies as follows:

> "***Shepard*** *(1956,3) saw three phases: (i) the study of whole vessels as culture objects; (ii) the study of sherds as dating evidence for stratigraphic sequences; and (iii) the study of pottery technology as a way of relating more closely to the potter; but she did not try to put dates to them.* ***Matson*** *(1984, 30) applied two of Willey*

and Sabloff's (1974) phases - the Classificatory-Historical Period (1914-60) and the Explanatory Period (1960 onwards) – to American ceramic studies. ***Van der Leeuw*** *(1984, 710-18) saw three phases: the typological (up to 1965), the 'three levels of research' (1965-80, continuing the previous tradition, with a 'micro' level below it and a 'macro' level above it) and the 'study of cultural element' (1980 onwards)* ."

Through these classifications, three stages of pottery studies in archaeology were presented with characteristic topics for each of them (Orton *et al.* 1993: 4-5: Table 2.1).

"*Here we attempt to draw together these views by setting the history of ceramic studies into three broad phases: (i) the art-historical, (ii) the typological, and (iii) the contextual, admitting that the last is characterized mainly by its diversity of approach, encompassing studies of technology, ethnoarchaeology, questions of style and problems of change (or the lack of it) in ceramics, all approached from widely-differing viewpoints*".

Whilst the framework of pottery studies which Orton *et al.* summarised appears to be appropriate, it seems to relate to theoretical issues in archaeological studies. According to the "*theoretical cycle*" in European prehistoric studies (Kristiansen 1998: 36-40), the cycle has fluctuated between "*Evolution Adaption (generalising)*" and "*Diffusion Culture (individualising)*" approximately every 50 years (see Figure 2.1). The "*theoretical cycle*" corresponds to the changes in ceramic study trends, especially after the end of the 19th century. In other words, since general theoretical trends appear to have exerted their influences on pottery studies, it is important to understand broader archaeological trends as well as those specific to ceramic studies.

Given this, examinations of theoretical aspects in pottery studies appear to be significant for understanding the development of approaches and identifying issues with the studies. Thus, this chapter will review the history of pottery studies related to theoretical issues, focusing on subjects of classification and chronology of pottery.

2.2 Typology and Culture-history

The origin of chronological studies based on archaeological approaches is involved with "*the development of Egyptology and Assyriology*" during the nineteenth century which used not only "*written records*" but also archaeological materials for their chronologies (Trigger 1989a: 38-40). Soon after, chronologies and methods based on "*the evolutionary concept of the Enlightenment*" began to be presented: for example, the "*Three-age*" scheme devised by the Danish archaeologist Christian Thomsen (*ibid.*: 73-9). A similar approach can be seen in John Evans' chronological study of British coins which were classified and seriated based on two attributes of motif and weight (Evans 1850).

The seriation method, which can construct chronologies through comparisons between artefact types, was developed by the English archaeologist, Flinders Petrie (Minta-Tworzowska 1998: 196; *cf.* Petrie 1899). He utilised the seriation method to understand relations between artefact types to place graves excavated in Egypt into chronological sequences (Heizer 1959: 376-83). His chronology was based on combinations of finds, showing developments of artefacts, including pottery. This fundamental approach for establishing chronologies contributed to the creation of acceptable relative chronologies for archaeological finds.

Around the same period as Petrie's work, relative chronological methods were also produced by the Swedish archaeologist, Oscar Montelius (Kristiansen 1998: 18; *cf.* Montelius 1885, 1903). He typologically classified artefacts in the northern European Bronze Age, and arranged them in chronological sequences using "*closed finds*" (*ibid*.: 18). This term meant "*the inventory from the moment of its deposition*" and was first used by Montelius (Minta-Tworzowska 1998: 196) and has been a main means for assessing chronologies (Collis 2008: 92). According to these examinations, he presented a "*well-defined culture in its geographical and temporal development, including absolute dates by cross-references to the classical world, where the major cultural impulses were located*" (Kristiansen 1998: 18). His approach for constructing chronologies was based on "*evolutionism*" and "*diffusionism*" (Minta-Tworzowska 1998: 196) and formed the foundation of subsequent '*cultural-historical*' studies (Kristiansen 1998: 18).

According to Stuart Piggott (1959: 48; *cf.* Pitt-Rivers 1891), it is General Pitt-Rivers who first created the term 'typology' in British archaeology and who regarded the term as an approach for arranging archaeological finds in chronological and evolutionary sequences. As well as Montelius, Pitt-Rivers' idea was influenced by Charles Darwin's theories of 'biological evolution' and 'natural selection', which was then applied to developments of artefacts (*e.g.* Thompson 1977; Bowden 1991). However, there is an understanding that these early chronological studies had been influenced by a methodology in linguistics before Darwin's theory presented in 1859 (O'Brien and Lyman 1999: 91-2):

> "*their* [Petrie, Evans and Pitt-Rivers] *work was founded in and originated with the use of the comparative method in linguistic studies of the late eighteenth and early nineteenth centuries (Leaf, 1979: 86-90). In short, similarity in form denoted historical (and, presumably, heritable) continuity, whether the objects compared*

were words or artifacts".

Studies on 'typology' as a classificatory system also have been addressed in other disciplines such as anthropology (*e.g.* Coon 1962; Coon and Hunt 1965; MacLaury *et al.* 2007), psychology (*e.g.* Eysenck 1947; Friedman and Rosenman 1974) and linguistics (*e.g.* Croft 1990; Shibatani and Bynon 1995; Fisiak 1997).

As such chronological studies developed, culture-historical studies began to be prominent in archaeology from the late 19th to the early 20th century (*e.g.* Trigger 1989a: 148-206; Jones 1997; 15-26; Diaz-Andreu and Champion 1996). This approach equated one cultural assemblage with one ethnic group, and the group movements were often interpreted as invasions and migrations. One of the most outstanding studies is the German philologist and archaeologist Gustaf Kossinna's work (*e.g.* Kristiansen 1998: 18-20; Veit 1989: 36-9; *cf.* Kossinna 1911, 1926). He tried to apply ethnic interpretations to the archaeology and to use it for nationalistic aims in his publications. Siân Jones (1997: 2) has highlighted the problem:

> "*The basic premise was that artefatct types could be used to identify cultures and that clearly distinguishable cultural provinces reflect the settlement areas of past tribes or ethnic groups. But perhaps the most crucial aspect of his methodology with relation to its nationalistic tone, was the direct genealogical technique used in order to trace the presence of historically known peoples back to their supposed prehistoric origins".*

Kossinna's nationalistic interpretations were refuted by contemporary archaeologists (Jones 1997: 16; *cf.* Childe 1933ab) and critically re-examined in many studies after World

War II (Kristiansen 1998: 20; *cf*. Werner 1956; Eggers 1959). Abner Cohen (1974: 9-10), for example, thought that the term 'ethnicity' was better defined as "*the degree of conformity by members of the collectivity to these shared norms in the course of social interaction*" and emphasised that people could feel they belonged to many different groups at different times. In other words, it was suggested that the contents of 'ethnicity' were complicated and changeable, and depend upon diverse situations (Cohen 1974, 1978).

V. Gordon Childe's early work is also representative of culture-history (*e.g.* Trigger 1989a: 167-174; Jones 1997: 15-8). He defined 'culture' in archaeology as follows (Childe 1929: v-vi):

> "*We find certain types of remains – pots – implements, ornaments, burial rites, house forms-constantly recurring together. Such a complex of regularly associated traits we shall term a 'cultural group' or just a 'culture'*".

According to this concept, Childe developed European prehistoric studies, especially their "*social and economic*" aspects. Importantly, although his approach was similar to Kossina's method, he did not link cultural groupings with "*ethnic and national*" groups (Veit 1989: 39; Kristiansen 1998: 14; *cf*. Childe 1929, 1933, 1935).

2.3 Processual Archaeology

From the 1960s, different approaches to archaeology began to be introduced by processual archaeologists who emphasised "*the functional relationships between systems*" (Preucel and Hodder 1996: 7). Their studies related to "*social processes and the production of generalizing explanatory models*", using "*anthropology, cultural ecology and* *neo-evolutionary theory*" (Jones 1997: 5). The processual archaeologists also introduced modern economics, systems theory and computer techniques (Willey and Sabloff 1993: 190). Moreover, their analyses involved critiques of the culture-historical approaches, stressing the complexity of "*past activities and processes*" (Jones 1997: 107).

Lewis Binford, who is one of the most influential processual archaeologists, regarded the frameworks established by culture-historical approaches as normative and thus critisised their rigidity (Binford 1965: 205). Kent Flannery (1967) also argued that there were some problems with using normative models for explaining cultural changes. Given these criticisms, processual archaeologists adopted ethnological analogies to understand properly human behaviours and social systems in the past (Binford 1962), and attempted to structure 'Middle-Range Theory' to connect between general theories and detailed archaeological data (Trigger 1995a: 450; *cf.* Binford 1977, 1981).

David Clarke (1968) and Colin Renfrew (1979; 1984) took the lead in developing processual archaeology in Britain (Trigger 1989a: 303). Clarke (*ibid.*) attempted to establish synthetic explanations based on the "*systemic approach of the New Geography*", emphasising the importance of data analysis which existing studies tended to disregard (*ibid.*: 316). Renfrew, alongside other processual archaeologists, regarded materialistic views as effective for understanding social circumstances (Renfrew 1973a) and focused upon social developments and processes of diffusion (Renfrew 1973b, 1986).

Processual approaches in ceramic studies were attempted from the start of the movement (Trigger 1989a: 300; *cf.* Whallon 1968; Hill 1970; Engelbrecht 1974). For example, the American archaeologist William Longacre (1964, 1970) examined specific social organisations in eastern Arizona with analysis of stylistic patterns on pottery decoration for comparison between their present and prehistoric circumstances. This was based upon the premise that 1) pottery is made by women; 2) pottery manufacturing techniques are succeeded from generation to generation and 3) women maintain their own techniques and decoration on pottery if they get married. Longacre compared the situation under patrilocal residence with matrilocal residence, concluding that an exchange of decoration patterns could be seen between groups under the former whilst decoration patterns were retained in each group under the latter. Correlations between social behaviours and material cultures were then considered, and it was assumed that distribution of material culture was an outcome of social exchange. Comparably, James Deetz (1965) utilised stylistic variations of pottery for reconstructing kinship structures and their changes. He also suggested that pottery styles under matrilocal residence were passed from mothers to their daughters.

The gender of the potter is one of the important arguments related to the hypothesis. This can affect examinations of changes in pottery styles and their backgrounds, including cultural, economic and social changes. In addition to the above studies, there are ethnological studies which support the opinion that women would have been basically involved in ceramic production. For instance, the anthropologist George Murdock (1937) collected ethnographic information on 224 tribes in the world, producing information on the division of labour by sex (Murdock 1937: 551-2, see Table 2.2). Although Murdock classified 46 kinds of labour by sex into five categories, the classifications can be summarised into three groups: 1) "*male-centred labour*", 2) "*female-centred labour*" and 3) "*both-engaging labour*" where both sexes engage individually or in cooperation (Tsude 1989: 269-70).

According to this classification, the Japanese archaeologist Hiroshi Tsude (*ibid.*: 270-3) identified characteristic in "*male-centred labour*" and "*female-centred labour*", "*both-engaging labour*" was considered susceptible to the effects of food production bases, root regulations and property ownership systems. "*Male-centred labour*" consists of labour which requires physical power and moving for a long distance, whilst "*female-centred labour*" is composed of cooking, making clothes and gathering fruits and vegetables which allow females to engage in deliverance and child-care without moving for great distances like males. This hypothesis was also supported by the difference of physical size between males and females in prehistoric Japan based on bone studies and by analysis of ancient literature and prehistoric pictures (*ibid.*: 273-83).

The gender of potters in the *Yayoi* period of prehistoric Japan was regarded as important as around 80 percent of pottery production in Murdock's data was "*female-centred labour*" (*ibid.* : 291). The data included examples of so-called 'civilised' societies with commercialised pottery production (Murdock 1937: 551), hence, the above percentage could rise further. Tsude called *Yayoi* pottery "*domestic pottery*" for personal consumption, which was neither made by potters' wheels nor was based on specialised production (Tsude 1989: 291). It was assumed that this kind of pottery tended to maintain inherent techniques and decoration patterns as "'*representations (or symbols)*" of individual groups (*ibid.*: 291). According to this concept of "*domestic pottery*", he developed discussions about marriageable zones based on ceramic distribution patterns (*ibid.*: 321-59).

The "*Deetz-Longacre hypothesis*" (*e.g.* Carr 1995; Roe 1995), also known as "*interaction theory*" (*e.g.* Rice 1991: 252), has been influential on ceramic studies dealing with social organisations (*e.g.* Voss and Young 1995: 81; *cf.* Whallon 1968; Hill 1968, 1970; Miller 1985; Arnold 1985; Rice 199), however, many critical studies of these methods have been made (Nelson 1997: 35; *cf.* Allen and Richardson 1971; Stanislawski 1973). Their main points were, for instance, "*inappropriate use of certain analytical techniques, lack of attention to archaeological contexts*" and "*overly simplistic assumptions concerning the transmission of knowledge of ceramic manufacture*" (Sinopoli

1991: 120; *cf.* Plog 1976, 1980; Wobst 1977; Hill 1985). Moreover, ethnographic studies appear to show diversity of gender in ceramic production (Hodder 1982c: 129; Hurcombe 2000: 90; *cf.* Stanislawski 1978; Wright 1991).

In the 1970s, studies on 'styles' of artefacts including pottery began to be popular. In order to define the contents of the terminology, James Sackett (1977: 369) classified studies on 'styles' into three groups: 1) "*'standard' approach in space-time systematics*"; 2) "*'content' approach which can focus on iconography and aesthetics*" and 3) "*'ceramic sociology' which deal with the derivation of style from ceramic data*". Then, Sackett (*ibid.*, 1982) considered the close relation between 'styles' and technologies (Carr and Neitzel 1995: 6). Martin Wobst (1977) argued that '*styles*' were concerned with information exchange, in other words, 'styles' could play a role in communicating information on social factors like affiliations, and religious and political roles (Shennan 1989a: 18). Polly Wiessner further developed Wobst's study (*ibid.*: 18; *cf.* Wiessner 1984, 1985), defining 'styles' as "*formal variation in material culture that transmits information about personal and social identity*" (Wiessner 1983: 256). She divided stylistic variations into two types (*ibid.*: 257-8):

1) "*emblemic style*": "*formal variation in material culture that has a distinct referent and transmits a clear message to a defined target population (Wobst 1977) about conscious affiliation or identity, such as an emblem or a flag*" (*ibid.*: 257).
2) "*assertive style*": "*formal variation in material culture which is personally based and which carries information supporting individual identity, by separating persons from similar others as well as by giving personal translation of membership in various groups*" (*ibid.*: 258).

These studies have also been further developed, based on "*isochrestic, symbolic-iconographic, and action/social-dialectical*" viewpoints of 'styles' (Carr and Neitzel 1995: 6; *cf.* Hodder 1982a; Sackett 1982; Wiessner 1984; see also Shennan 1989; Conkey and Hastorf 1990; Carr and Neitzel 1995; Jones 1997).

2.4 Post-processual Archaeology

In the 1980s, new approaches emerged from the criticism of processual archaeology (*e.g.* Chippindale 1993: 27; Shanks and Hodder 1998: 69; Smith 2004: 44; *cf.* Hodder 1982ab, 1985; Barrett 1987; Earle and Preucel 1987; Shanks and Tilley 1987ab). Ian Hodder (1982ab, 1985) regarded the interpretation and meaning of material culture in prehistory as important, whilst critisising the frameworks established in culture-historical studies and the approaches of processual archaeology, including "*positivism, functionalism and adaptation*" (Hodder 1992: 74).

According to these critical studies, Hodder undertook ethno-archaeological research, utilising "*both processual and post-processual*" archaeologies (Stark 1993: 93), in Kenya for considering active relations between material cultures and societies (Hodder 1982a: 58-74). For instance, his examinations of artefacts such as spears and gourd-shaped containers showed diversity in the types of material cultures represented. It was identified that spears were associated with males and had a typological commonality beyond each boundary of three tribes, with their symbolism showing "*strength and warrior ability*" of young males against elder males in the region (*ibid.*: 67). The containers were interpreted as being related to females and that their decoration patterns functioned for communications between women within local-level communities (*ibid.*: 68). Their symbolic meanings had no particular roles although those of clothes and bodies represented "*conformity and acceptance of the strict control*" by elder males (*ibid.*: 69). However, in terms of the organisations of the decoration patterns, it was inferred that there were "*zoned designs*" which showed "*the degree of constraint and the individual's conception of boundaries*" (*ibid.*: 73). Consequently, the complexity of relations between material types and human activities was stressed. It was emphasised that artefacts accompanying "*meanings*" should be considered in individual historical and cultural contexts, considering results of other case studies (*ibid.*: 215-7). The importance of "*concepts such as ideology, legitimation, power, symbol and social structure*" was also highlighted for "*interpretations*" of various matters in prehistory (*ibid.*: 229).

Mark Leone divided approaches of post-processual archaeology into three types which were "*symbolic*", "*structural*", and "*critical*" archaeologies, accompanying "*four issues*" (Leone 1986: 415-6). The first issue is the "*interactive or recursive quality of culture*": it is regarded that material culture can play a useful role in creating or reproducing "*order*" and "*meanings*" (*ibid.*: 416). The second is the "*emphasis on meanings*" which relates to the refusal of "*materialism*" which does not take into account "*meaning, the context of daily life, deliberate attempts to manipulate social relations, and the whole world of life*" (*ibid.*: 417). The third point is a "*critique of the function of the past and scientific knowledge of it in society*" (*ibid.*: 418). For example, "*critical*" archaeology rejected the notion of science's neutrality and objectivity, regarding "*history as ideology*" according to Marxism. The fourth issue is a "*serious denial of the place of positivism in archaeological science*", mainly by "*symbolic*" archaeology (*ibid.*: 418). It is proposed that scientific analyses are controlled by each cultural context, and the importance of interpretations in individual cases is stressed. This importance, called "*interpretative archaeology*", was methodologically developed in post-processual archaeology (Jones 2008: 11: 197; *cf.* Hodder 1991b; Tilley 1993; Thomas 1998, 2000).

However, critical studies on post-processual archaeology have been presented (*e.g.* Trigger 1989b, 1995b; Kohl 1993). Bruce Trigger (1989b) identified post-processual archaeology as similar to 'culture-historical' studies in terms of its study subjects, such as "*history, ethnology, context, and the subjectivity of the researcher*" (McGuire 2006: 69). He also regarded its approaches as a "*superrelativism*" which overlooked "*the importance of the real world in the formation of archaeological thought*", which was further developed with criticism of post-modernism (*ibid.*: 69-70).

2.5 Cognitive Archaeology

The 1990s saw an influx of cognitive archaeological studies (*e.g.* Flannery and Marcus 1993; Renfrew and Zubrow 1994; Mithen 1996; Renfrew and Scarre 1998). Steven Mithen (1999: 122) defined cognitive archaeology as follows:

> "*The term cognitive archaeology was introduced during the early 1980s to refer to studies of past societies in which explicit attention is paid to processes of human thought and symbolic behavior. Cognitive archaeology attempts to do this, believing that appropriate interpretations of past material culture, the behavioral processes that created it, and long-term patterns of culture change evident from the archaeological record, such as the origin of agriculture and the development of state society, requires that those belief systems and processes of thought be reconstructed*".

There are various approaches and arguments in cognitive archaeology which deal with not only belief systems but also daily behaviours (*ibid.*: 122). They can be broadly separated into three groups: 1) understanding of "*symbolic aspects of human behaviour*" and "*hermeneutic interpretation*"; 2) assessment of these based on scientific approaches with objectivity ('*cognitive-processual*' archaeology; *cf.* Renfrew and Bahn 1991); and 3) studies of "*the evolution of the human mind*" ('*cognitive-processual*' archaeology) (Mithen 1998: 6-7).

In terms of pottery studies, "*chaîne opèratoire (chain operation)*", which was developed in studies of the lithic manufacture process (Miller 2006: 30), is one of the most important concepts. This idea was first translated from French to English by Pierre Lemonnier (Skibo and Schiffer 2008: 9) and defined as: "*a series of operations which brings primary material from its natural state to a fabricated state*" (Lemonnier 1986: 149). Olivier Gosselain (1992) and van der Leeuw (1993, 1994) introduced the concept to ceramic studies to consider similarities of manufacture processes between pottery and stone tools. The use of the concept has contributed to the understanding of regular stages formed by "*physical laws*" and "*cultural choices*" in the manufacture processes (Gheorghiu 2008: 167), though criticism has been drawn over discontinuity "*through use activities and beyond*" (Skibo and Schiffer 2008: 22).

Another important issue is involved with '*categorisation*' which was developed by the linguist William Labov (1973) who utilised materials such as cups and bowls to examine his hypothesis (Matsumoto 2000: 52). Cognitive psychologist Eleanor Rosch (1978) believed that human thought was organised with categories composed of their prototypes and subordinate types, although cognition of these types depends on persons. This was called "*prototype theory*" (*e.g.* Jones and Idol 1990; Taylor and MacLaury 1995; Rogers and McClelland 2004). Prototypes are formed with their characteristic factors and most appropriate examples of categories, whilst their subordinate types are based on the degree of similarities to the proptotypes. This concept was positively introduced by other disciplines such as linguistics and anthropology (Hampton 2006: 81).

An anthropologist Willet Kempton (1981) represented the effectiveness of the "*prototype theory*" through an ethnographical study on categorisation of pottery. It was considered that a category of pottery was a radiated structure centring a prototype. It was also noted that there were differences in categorising pottery between social factors, such as gender, occupation and generation within cultures. Moreover, based on comparison of data available from informants between modern settlements and traditional settlements, it was assessed that diffusion of mass-produced pottery in Mexico had caused change to the traditional category structure of pottery.

2.6 Summary

As seen above, there have been the four main theoretical developments since the end of 19th century in prehistoric pottery studies. The studies started with constructing relative chronologies based on typological studies of pottery. Such an approach was useful for discussing cultural genealogies and regionalities, as well as understanding relations between regions through movements of pottery and its attributes. However, this was rejected by processual archaeologists who criticised the subjectivity of the approach and its connection between cultures and ethnic groups. On the other hand, processual archaeology was also critiqued by post-processual archaeologists, forming a debate between universalism and relativism. Cognitive archaeology has been based on both processual and post-processual approaches, but it is unlikely that its pottery analyses have been adequately developed, probably due to difficult points of its approaches concerning interpretations and archaeological data (Bell 1994: 322-3).

These theoretical developments of pottery studies have contributed to creation of new ways of thinking and new methods, adopting studies and approaches of different disciplines such as anthropology, ethnology, linguistics, sociology and psychology. However, it appears to be questionable how useful and applicable there can be in individual regional and historical contexts. It also seems to be uncertain if the methods critisised in the history of the theoretical studies have been rejected in archaeology, except Kossina's approach. Considering these points, the next chapter will examine trends in studies of pottery in Iron Age Britain and then, identify what types of studies need to be developed on a basis of priority.

Chapter 3

A review of the Iron Age pottery studies in Britain

3.1 Introduction

According to comprehensive studies about Iron Age Britain and its pottery (*e.g.* Cunliffe 1974, 2005; Hill 1995b, 2002a; Haselgrove *et al.* 2001; Woodward and Hill 2002), pottery studies in Iron Age Britain can be broadly separated into five main themes: 1) chronology; 2) production; 3) distribution; 4) usage and 5) social organisation. Though the individual themes can be sub-divided into detailed areas and relate to each other, this classification is adopted here for a clear understanding of the characteristics of the pottery studies.

Studies of ceramic chronology based on pottery classification have provided time scales of vessels in many regions, and the individual time scales allowed archaeologists to compare aspects of ceramics between sites and between regions. Such comparison studies tended to be related to culture-historical approaches and were thus fundamental in the first half of the twentieth century. However, such methods have become relatively old-fashioned since the culture-historical approaches were rejected in British prehistoric archaeology (Hill 2002a: 75). In studies of pottery production, there are various subjects involved with the process of ceramic manufacture, such as selection of raw material, methods of forming and firing, and surface treatment. These tend to be based on different approaches like petrology (*e.g.* Peacock 1968; Shotton and Hendry 1979; Neff 1992), ethnology (*e.g.* van der Leeuw and Pritchard 1984; Rice 1987) and sociology (*e.g.* Lemonnier 1986; Gosselain 1992). Studies of ceramic distribution are concerned with the above two study themes, such as regionality based on pottery classification and identification of production centres through petrological analyses. The studies can reconstruct not only cultural and economic aspects of societies from spatial viewpoints but also their chronological changes (*e.g.* Hodder and Orton 1976; Earle and Ericson 1977; Howard and Morris 1981; Cunliffe 1991). Pottery use is entwined with both a vessel's function and various cultural intentions. For example, in terms of primary function on a day-to-day basis, there can be classification such as "*cooking vessels, cooking trays, serving and eating vessels, dry-storage vessels, liquid-storage vessels, water-transport vessels*" (Henrickson and McDonald 1983). These different ways of ceramic usage tend to correlate with form and size, but these and other factors, such as fabrics, colours and decoration patterns, might show symbolic meanings and social expressions in both daily and ceremonial use (Hill 2002a: 79-80; *cf.* Hardin 1984; Hole 1984; David *et al.* 1988; Thomas 1991). Economic aspects of pottery are effective for examining social systems and structures, as well as the circumstances of settlements and other artefacts (*e.g.* Cunliffe 1974, 2005; Renfrew 1977). Gender and identity can also be examined, however, these tend to be discussed in theoretical and ethno-archaeological studies as noted in the previous chapter.

This chapter will review the history of Iron Age pottery studies in Britain, according to the five main themes. This will examine the trends in pottery studies and also the current situation of 'old-fashioned' classification studies which will also be considered before identifying how classification studies should be addressed. Finally, regional settings for this study will be presented based on these examinations.

3.2 Iron Age chronological frameworks and pottery studies in Britain

3.2.1 Introduction

Chronologies of archaeological finds are very important for reconstructing, interpreting and understanding past human activities and societies. They are particularly vital to prehistoric studies as literature and written records are unavailable. Consequently chronologies have been developed since the beginning of the 19th century, when Christian Thomsen introduced the "*Three Age*" system into archaeology (Trigger 1989: 75). His system consisted of the "*successive ages of stone, bronze and iron*" (*ibid.*: 75), which regarded the difference in implement materials as having reflected developments in European prehistory. Subsequent excavations supported his scheme with stratigraphic evidence (*ibid*.: 81). Thomsen also addressed chronological studies using seriation methods developed by Oscar Montelius and based upon typological approaches (*ibid.*: 157). According to his chronological framework of the European Bronze Age (see Figure 3.1), the differences in artefacts' groups based on typological classification represented their temporal differences. Such relative chronologies made it possible for absolute dates to be assigned by cross-dating with dated materials from other regions. Following the development of these studies, physical and chemical scientific dating methods, including radiocarbon dating, began to be introduced into chronological studies around the middle of the 20th century (*e.g.* Renfrew 1973; Kristiansen 1998). As mentioned above, current study trends show that such scientific methods continue to be improved for increasing accuracy, while studies using relative dating methods becoming unpopular despite the need for a re-examination of existing typological classifications and chronological schemes.

Most topics related to the re-examination of both relative and absolute chronologies will be discussed in Chapter 7, but one important issue remains: chronological division. Unlike studies of historical periods, which often use archives, regnal lists and dynasties, prehistoric studies have to utilise various archaeological factors such as artefacts, burials and settlements to form chronological divisions (*e.g.* Collis 1977a: 23). Even if physical and chemical scientific methods are used for dating, classification studies of such factors are needed to keep refining existing chronological schemes.

A composition of factors which have correlations in both time and space have often been regarded as a '*culture*' (*cf.* Childe 1929: v-vi). The archaeological '*cultures*' considered by Gustaf Cossina had been related to '*peoples*' and '*races*', however, it does not seem that Childe adopted such idea (Pare 2008: 75). According to Siân Jones (1997: 106-10), issues on '*cultures*' can be summarised into three broad points: 1) "*the relationship between archaeological cultures and ethnic cultures*"; 2) "*the actual existence of archaeological cultures*"; 3) "*the very existence of ethnic groups as fixed bounded entities*". However, the temporal aspects of '*cultures*' are unlikely to have been discussed as well as their spatial aspects.

With the definition of '*culture*', Childe (1929: vii) stated that '*cultures*' were "*not necessarily a chronological concept*". This was demonstrated in his chronological scheme, which showed a discord between periods and cultures (see Figure 3.2). However, it seems that a number of subsequent studies tended not to take the separation into account when considering chronological frameworks, with criteria for chronological divisions likely to be wide-ranging. These study conventions seem to have brought confusion to a number of European chronological studies of prehistory, including the Iron Age.

Given these circumstances, this section will examine varieties of chronological divisions in British Iron Age studies whilst briefly referring to those in European prehistoric studies. Then, the appropriate approaches for the divisions will be discussed, focusing on the Iron Age in central-southern Britain.

3.2.2 British Iron Age chronologies in broader context

Iron Age chronological studies in Britain began to develop around 1900, focusing on external influences with the so-called "*concept of invasion*" (*e.g.* Collis 1994: 123). The chronological division was characterised with three epochs: "*Hallstatt, Early La Tène, and Late La Tène*" (*ibid.*: 123). Based on this broad chronological scheme, Hawkes (1931) discussed the development of Iron Age hill-forts with Britain-specific terms: "*Iron Age A, Iron Age B, and Iron Age C*" (*ibid.*: 64). His '*ABC*' system might have given an impression of a chronological division to many archaeologists because the three cultures reflected their relative chronological order. That there was '*Iron Age*' before '*A*', '*B*' and '*C*' also caused this impression. However, these terms referred to cultural rather than chronological divisions as Hawkes described them as "*cultures*" (*ibid.*: 64).

This distinction between the cultural and chronological divisions seems to have been vaguely dealt with by a number of archaeologists. Therefore, Hawkes stated in his later paper: "*I have said already that A, B, and C are cultures and not periods*" (Hawkes 1959: 174). This was clearly presented in the paper with regional chronological frameworks. Each chronological period included different cultures which showed inconsistencies in the divisions between chronologies and cultures (see Figure 3.3; Table 3.1). Nevertheless, this distinction seems to have been largely ignored in many subsequent studies, as seen below.

The chronological divisions were named '*Iron Age 1*', '*Iron Age 2*', and '*Iron Age 3*', they were assigned absolute dates by cross-dating with continental chronologies and the help of British coin chronologies (*ibid.*: 174). However, it is unclear what archaeological factors and criteria were used for the division. Considering these, Hawkes' chronological division may be simply based on the convenience of explaining his scheme.

Hodson (1960, 1964) presented a different chronological scheme, critisising Hawkes' '*ABC*' system based on ambiguous archaeological data. He highlighted an indigenous British culture, the '*Woodbury Culture*', and focused on three archaeological factors: '*round houses*', a '*weaving comb of bone or antler*' and '*ring-headed pin of bronze or iron*' (Hodson 1964: 102-4; see Figure 3.4). Hodson also identified the invasion of continental cultures such as "*Arras La Tène culture*" and "*Aylesford La Tène culture*" (*ibid*.: 100-2) and stressed regional variations of cultural characteristics, including vessel styles (*ibid.*: 102-7).

His scheme was not innovative as he adopted Childe's concept of '*culture*' (Collis 1994: 125), however, it is interesting that cultures were regarded as almost equivalent to chronological phases (see Figure 3.4; Table 3.2). Furthermore, Hodson adopted the traditional three divisions based on external (continental) influences, although he also separated the British Iron Age into two periods, based upon native cultures. There are likely to be problems with his definitions of the cultures, but his approach to chronological division is clearer than Hawkes.

Harding (1974) adopted cultural factors for considering British Iron Age chronologies as well as Hodson's scheme. However, his main aim appears to have been the identification of chronological correlations between the continent and Britain, examining "*the evidence for archaeological invasion*" (*ibid.*: 8). He stated that the use of the continental chronological systems would be required to establish British ceramic chronologies (*ibid.*: 16). His examinations of archaeological materials and their chronologies were also conducted along the continental chronological terms of: "*The early La Tène phase*", "*The middle La Tène phase*", and "*The late La Tène phase*" (*ibid.*:

134-226). In short, his chronological division for British Iron Age chronologies was basically accommodated to the continental chronological scheme. This approach seems to be somewhat similar to early chronological studies from around 1900.

Cunliffe (1974a), working at the same time as Harding, presented four regional chronological frameworks of ceramic styles for British Iron Age, identifying problems with existing historical and cultural models. For example, there are five dated stages of ceramic "*style-zones*" in the south region (*ibid*.: 29-45; see Table 3.3). The dating approach for these stages was not clearly presented, the examination seems to have used radiocarbon dating and cross-dating with dated continental materials. Cunliffe's chronological scheme was different from others in terms of focusing on ceramic styles and was not attached to the traditional three-stage division. This scheme was also adopted in the second edition of his book (Cunliffe 1978).

However, Cunliffe (1974a: 301-9) also explained the social change in the Iron Age by using a different chronological division consisting of two periods: "*Early*" and "*Late*" (see Table 3.4). It seems that this division used literature to inform the importance of Roman influences on British societies (*ibid.*: 301, 306-7). In the same year, Cunliffe (1974b: 254-7) presented a different chronological division for describing the development of the Iron Age (see Table 3.5), based upon the social aspects and a variety of archaeological factors such as ceramics, metal objects and hillforts.

These two-stage classifications were changed to a three-stage division in the second edition of "*Iron Age Communities in Britain*" (Cunliffe 1978: 327-47; see Table 3.6). This new scheme could be regarded as a combination of the different two-stage divisions (see Table 3.4, 3.5). However, the revised terms were somewhat irregular. Although the term "*Late*" was used, there were no '*Middle*' or '*Early*' stages. Furthermore, in terms of social development, the division's terms appear to be inappropriate as they do not reflect specific developmental aspects. Given these problems, there might be difficulty in applying such chronological division based on social change in the Iron Age.

Collis (1977b) proposed a chronological framework for the Iron Age, focusing on the south and east of Britain. He stated that his framework was based on “*pottery styles*” and “*C14 dates*” (*ibid*.: 6), but detailed examinations were not presented. Given the content of his scheme, it appears that the essence of existing ceramic and chronological studies were skillfully adapted for his chronological framework. In terms of chronological division, four stages were produced, including “*the transitional period*” from the Bronze Age to the Iron Age (*ibid*.: 6; see Table 3.7). However, this might have been affected by the development of continental chronological studies. He used the four-stage scheme of La Tène (named A, B, C and D) for identifying correlations between the continental and British chronologies, whereas the 1960s studies, such as Hawkes and Hodson, adopted a three-staged division (La Tène I, II and III).

In the 1980s, Timothy Darvill (1987: 25) presented a chronological framework of British prehistory using “*conventional terminology*”: the three periods of “*Early*”, “*Middle*” and “*Late*” (see Table 3.8). However, the methodology for constructing this chronological framework is uncertain. It can be assumed that the framework was based on a variety of existing chronological studies, given his book’s broad viewpoint. Darvill’s work used both conventional and societal chronologies in the same manner as Cunliffe. The societal changes were composed of “*Tribes and Chiefdoms*” and “*Political Societies*” which were similar to the social development in the neo-evolutionalism concept of M.D. Sahlins and E.R Service (1960) which used “*band, tribe, chiefdom, and state*” (Trigger 1989: 292). However, there are a number of critical studies against this concept (*e.g.* Renfrew 1982; Hodder 1986; Shanks and Tilley 1987), hence, chronological divisions based on such social development should be carefully re-considered.

Sheila Elsdon (1989) separated the Iron Age into six periods in her study of later prehistoric pottery in England and Wales (see Table 3.9), stating: "*The division of pottery into early, middle and late group is arbitrary and for convenience of description. It is based on trends in form and decoration and the introduction of wheel-made pottery*" (*ibid.*: 9). Elsdon's divisions were clearly based on such ceramic factors, but it was unclear how the division stages were established. For example, although both "*Middle*" and "*Late*" periods were respectively separated into two phases, there was no explanation about the difference of criteria between such sub-divisions. Consequently, it can be inferred that her scheme was influenced by existing studies which had used the three-stage division.

For the absolute dating of ceramics, both comparisons with continental chronologies and radiocarbon dates were used. Elsdon recognised that the use of radiocarbon dates for the Iron Age was problematic, stating (1989: 9): "*Radiocarbon dates are quoted only for the earlier part of this study. This is because in the later part of the iron age they range between limits which are often as much as 150 to 200 years apart*". However, Elsdon's earlier period, with which she used radiocarbon dates, largely overlaps with the problematic flat area of the calibration curve between around 800 and 400 BC (*e.g.* Cunliffe 1991; Haselgrove *et al.* 2001; Willis 2002). This means that even radiocarbon dates within her earlier period are likely to be inaccurate, consequently the ceramic data should be re-examined with more appropriate methods.

In the 1990s, Cunliffe (1991) produced a definite five-stage chronological framework correlated with the continental chronologies in the third edition of "*Iron Age Communities in Britain*" (*ibid.*: 26; see Figure 3.5). This chronological scheme was based on the ceramic styles established by typological classification, particularly in southern regions (*ibid.*: 27; see Table 3.10). These classifications were similar to those produced in the previous editions though with some modifications to the period dates (compare between Tables 3.3

and 3.10). The third edition showed correlations between ceramic styles and the "*Early*" and "*Middle*" chronological periods. However, the "*Latest*" period is likely to have been created by other factors like historical circumstances: there is no explanation of ceramic characteristics for this period. In terms of a chronological division based on social development (*ibid*.: 523-48), the two-division was returned to from the first edition (see Table 3.11). It seems that the impact of the Roman world on British societies was regarded with prominence in the re-evaluation. These chronological schemes were mostly maintained in the latest edition of "*Iron Age Communities in Britain*" (Cunliffe 2005) but with some revisions of the correlations with continental chronologies (compare between Figures 3.5 and 3.6).

Hill (1995b: 47-8) arranged existing chronological schemes into a specific framework in his comprehensive study of Iron Age Britain and Ireland (see Figure 3.7, Table 3.12). The scheme adopted the traditional three-stage division for the Iron Age chronology as it was regarded as "*successful and easily applicable*" (*ibid.*: 74). However, the traditional chronological divisions and their contents were complicated in the manner seen above. Moreover, although he considered that the three-staged division was "*based on pottery typology*" (*ibid.*: 74), the above examination shows that it had been constructed by different, social approaches. Therefore, his framework appears to be a synthesis of various factors derived from existing chronological schemes. It is important to notice that the traditional three-stage division remained influential over the Iron Age chronology in Britain since the early 20th century. Meanwhile, it is also crucial that Hill highlighted the continuity of "*the Middle Pre-Roman Iron Age*" ceramic forms in many regions of England (*ibid.*: 75). This suggests that the division between the Middle and Late periods in the conventional three-staged division should be re-considered.

Haselgrove (1999: 114) identified that the traditional three-stage division "*based on changes in decorated pottery styles*" was a generally accepted chronological scheme for the Iron Age in the south and east of Britain (see Table 3.13). Meanwhile, he proposed a two-stage division for the north and west of Britain, based on the archaeological circumstances in the areas (see Table 3.14), which implied the importance of ceramic styles as a chronological indicator.

In the studies of the twentieth century, a variety of absolute dates were used for informing chronological division, especially for earlier periods (compare from Table 3.1 to 3.14). This was connected to progress in absolute dating methods (*e.g.* Cunliffe 1984a; Bowman 1990; Barnett 1997; Taylor 1997) and the development of chronological studies of artefacts (*e.g.* Haselgrove 1987, 1997). Despite such improvements in Iron Age dating studies, chronological frameworks seem to have remained unstable, perhaps due to chronological divisions having been made from differing approaches based on diverse factors, in addition to stratigraphic issues discussed in the last chapter.

In the 2000s, different viewpoints were proposed although conventional chronological divisions continued to be adopted in a number of studies (*e.g.* Gibson 2002; Greis 2002; Cunliffe 2005; Finney 2006; Bradley 2007). Alex Gibson (2002) outlined the development of ceramic forms, decorations and manufacturing techniques in Iron Age Britain, chiefly utilising Cunliffe's ceramic study (*cf.* Cunliffe 1991). In terms of southern Britain, his chronological framework was based on the three-stage division: "*Earlier*", "*Middle*" and "*Later*" (Gibson 2002: 117-24). However, it somehow consisted of two stages, changing at 350 BC, highlighting the great impact of the La Tène vessels on British ceramics (*ibid.*: 119; see Table 3.15).

Meanwhile, a recent review of Iron Age studies adopted a two-stage division in order to explain the "*processes of change*", taking into account many regions in Britain

(Haselgrove *et al.* 2001: 25-31; see Table 3.16). The different stages were characterized by various elements like settlements, artefacts and societies. However, it was stressed that the chronological division needed to account for "*the differences in the range and forms of social processes*" and the amounts of archaeological "*evidence*" (*ibid.*: 28). Importantly, it also re-appraised the traditionally popular division of the 'middle' and 'late' Iron Age, citing these as inappropriate for many regions except "*certain parts of southern and eastern England*" (*ibid.*: 28). This view is supported by a number of regional studies which showed the long continuity of "*middle*" Iron Age pottery (*ibid.*: 28; *cf.* Haselgrove 1987; Hill 1999) and clarified aspects of regions where 'late' Iron Age pottery was applicable (*e.g.* Haselgrove 1989; Hill 2007).

It seems that this two-staged division led to a re-evaluation of the significant Roman influence on Iron Age Britain since the early 1930s. This issue ranges from the date of its impact to the degree of its penetration and the extent of its spread. Examining these factors is important for Iron Age chronologies and understanding Iron Age social and cultural developments. However, this could require a long-range study as the examination needs a number of approaches based on various factors as discussed in the recent review (Haselgrove *et al.* 2001: 25-31). Furthermore, the examination needs to be conducted in many regions, with cross-regional comparisons necessary.

Two-stage divisions were also adopted in two recent collections of papers on the British Iron Age. The Iron Age was separated into "*Earlier*" and "*Later*" periods, as seen in their titles (Haselgrove and Moore 2007; Haselgrove and Pope 2007; see Table 3.17), but there were two issues with the start date of the chronological divisions. There was difference in the start date of the Iron Age, Hawkes' scheme cites this as 550 BC (1931, 1959) opposed to the 750/700 BC of Hodson's framework (1960, 1964), though both studies considered the continental influence on Britain for identifying the date. However, the development of chronological studies and the increase of dating evidence began to support the earlier date. Because of the extension, several studies created an "*Earliest*" period, meaning the transition from Bronze to Iron Age, which focused on changes in ceramic styles (*e.g.* Collis 1977; Cunliffe 1991, 2005). According to Haselgrove and Pope (2007: 4), the beginning of the Iron Age appears to have been recently regarded as "*c. 800 BC, coeval with the start of Hallstatt C on the Continent*" although some archaeologists consider the Bronze Age to continue until 600 BC (*ibid.*: 4; *cf.* Brück 2007; O'Connor 2007). However, the earlier date was selected in the first volume, based on changes in social characteristics and aspects of ceramics, metalwork and settlements in many regions (Haselgrove and Pope 2007).

In terms of the end of the "*Earlier*" period, namely the beginning of the "*Later*" Iron Age, a date between 400 and 300 BC was considered in both books (Haselgrove and Pope 2007: 5; Haselgrove and Moore 2007: 2). This division was similarly based on various factors like settlements and material cultures, taking into consideration the situations of many parts of Britain, especially the traditional division between the 'middle' and 'late' Iron Ages (Haselgrove and Moore 2007: 2). Consequently, such traditional divisions were not adopted in the books. This principle must apply to the end of the Iron Age which was regarded as "*the Roman conquest*" (*ibid.*: 2) though its absolute date depends on regions. In general, the Roman conquest has been thought to have begun with Claudius' invasion of southern Britain in AD 43 and to have had been completed by AD 84 (*e.g.* Cunliffe 1974b, 1991; Dyer 1990; Goodman and Sherwood 1997). During the conquest, there must have been significant difference in the spread of Roman cultures between regions (*e.g.* Cunliffe 1991; Millet 1992; Harding 2004; Hingley 2005).

These recent two-stage chronological divisions can be characterised by an emphasis on broader viewpoints leading to a comprehensive understanding of Iron Age Britain, including its multiple regionality and complex, varied, factors. This emphasis seems to have had an impact on existing studies in terms of encouraging a re-consideration of the traditional three-stage division and continental influences on British Iron Age societies.

3.2.3 Iron Age chronologies of central-southern Britain

Regional chronologies are generally based on ceramic chronological frameworks derived from the developments at specific sites. Maiden Castle's scheme proposed by Wheeler (1935, 1943) is one of the early notable studies in central-southern Britain. Based on ceramic typological classification, Wheeler (1935: 274) produced a three-stage chronological division in the first interim report alongside Hawkes' ABC system: "*Iron Age A1 (600-400BC)*", "*Iron Age A2 (400-200)*" and "*Iron Age AB (200-early first century AD)*". However, Wheeler modified the framework and the assigned dates in the official report, classifying vessels into three groupings: "*Iron Age A*", "*Iron Age B*" and "*Iron Age C (Belgic)*" (Wheeler 1943: 185-241). They were used for describing Iron Age site development which was composed of five stages where the ceramic groups were dealt with as "*culture*" and "*phase*" (Wheeler 1943: 28-61; see Table 3.18). Though Wheeler's framework consists of uncertain conceptual structures between the ceramic groups, cultures and phases, it is clear that his criteria for chronological division were based on the ceramic groups.

Danebury's ceramic chronological scheme by Cunliffe (1984ab) has been influential on various regional studies and their surrounding areas. This appears to be because the scheme was based on a relatively large quantity of vessels covering most of the Iron Age, with an organised typological approach and utilising an appropriate amount of radiocarbon data (*e.g.* Haselgrove *et al.* 2001; Willis 2002). However, the previous chapter identified problems with these factors in constructing ceramic chronologies.

The Danebury ceramic scheme constituted nine "*ceramic phases*" (Cunliffe 1984b: 234), absolute dates were allocated to "*ceramic phases*" 1 to 7 (Cunliffe 1984a: 197; see Table 3.19). However, the dates were greatly modified in the later report by the use of a revised calibration curve and specific statistical methods when those of "*ceramic phases*" 8 and 9 were presented (Cunliffe 1995: 17-8; see Table 3.19).

In terms of a broader chronological division, the Iron Age ceramic chronology was separated into five periods in the 1995 report: "*Earliest*", "*Early*", "*Middle*", "*Late*" and "*Latest*" (*ibid.*: 18; see Table 6.18). Meanwhile, the 1984 report used these terms, not for the ceramic development, but for the site development (Cunliffe 1984b: 549-50; see Table 3.19). Therefore, the correlations between such chronological divisions and "*ceramic phases*" were not necessarily consistent between the 1984 and 1995 reports. The correlations between the periods, ceramic attributes and "*ceramic styles*" established in Cunliffe's "*Iron Age Communities*" (1991, 2005) are shown in Table 6.18 (Cunliffe 1984b: 234; Cunliffe 1995: 18). It is very important to note that the five-stage temporal division is a framework peculiar to Danebury, especially after the "*Middle*" period. A comparison between Tables 6.18, 3.10 and 3.19, shows Danebury's "*Middle*" period (*cp* 6: 40 years) as much shorter than other schemes; similarly, Danebury's "*Late*" period (*cp* 7: 210 years) is longer than those of the "*Iron Age Communities*". This difference is due to Danebury's scheme incorporating hillfort development, including the defensive sequence (Cunliffe 1984a: 43-4; Cunliffe 1995: 18). Given that many studies have used Cunliffe's two chronological schemes, this difference might have caused confusion in the studies.

Some of the case studies also provided chronological frameworks, the Old Down Farm report separated the site's Iron Age into seven periods using absolute dates (Davies 1981:

83; see Table 3.21). However, it is uncertain what archaeological materials were used, what criteria were adopted and how the chronological stages were produced for constructing the site's chronology. Although a few radiocarbon dates were available, they were not useful for establishing the site chronology, as identified in the site case study. There were also few cross-dating examinations and little stratigraphic information for establishing the chronological framework. It can be inferred that the report based the chronological divisions on existing studies, especially ceramic chronologies. It is also unclear from where the chronological terms like "*Early*", "*Middle*" and "*Late*" originated. This could also be based on existing studies because the terms had often been used uncritically in the report's last section. Otherwise, it is possible that they were adopted simply for the sake of convenience.

Balksbury Camp's chronology was composed of seven phases based on mainly ceramic typological classifications (Wainwright and Davies 1995: 108; Table 3.22). Absolute dates were assigned to the phases, using the ceramic schemes of Danebury (Cunliffe 1984a) and Pottern, in Wiltshire, (Gingell and Lawson 1984) which had been established by radiocarbon dates. However, the absolute date allocations in the Danebury scheme were modified in 1995 (Cunliffe 1995) as noted above, hence, those of Balksbury Camp need revision. The chronological divisions of the site's ceramics were examined "*not only by treating particular forms as diagnostic of particular phases, but also through assessment of relative proportions of types in each assemblage*" (Rees 1995: 70). This also included Danebuy's ceramic scheme, which was widely regarded as "*the standard*" (*ibid.*: 70; see Figure 3.6).

In terms of chronological divisions, the conventional terminology of "*Early*", "*Middle*" and "*Late*" was adopted even though the Balksbury Camp was independent of the other sites. This can be connected to the lack of correspondence between Balksbury Camp's chronology and those of other sites, despite the use of the same division terms (see Figure 3.6). Furthermore, the site report used the same terminology for both the ceramic chronological divisions and the site’s development, despite their inconsistency (Wainwright and Davies 1995: 108-9; see Table 3.22). Such usage of terminology for chronological division is complicated and can cause confusion in Iron Age studies, therefore, more easily distinguishable terms should be considered.

Maiden Castle’s recent excavation report utilised ceramic typological classification for the site chronology. This was based on “*a modified version of the hierarchical scheme employed at Danebury and Hengistbury Head*” (Brown 1991: 187). In terms of chronological division, conventional terms such as “*Early*”, “*Middle*” and “*Late*” were adopted for explaining the site development (Sharples 1991: 45, 257-65; see Figure 3.9). These terms appear to correspond to those used in the ceramic chronologies of Danebury and Hengistbury Head. Consequently, absolute dates are available from those two sites’ ceramic chronological frameworks.

However, such temporal terms for the ceramic phases were clarified in the 1987 Hengistbury Head report (Cunliffe 1987: 207), though Danebury’s report used the terms for describing the site’s development (Cunliffe 1984b: 549-50). According to the Hengistbury Head scheme, there were four periods: “*Early Iron Age*”, “*Middle Iron Age*”, “*Late Iron Age 1*” and “*Late Iron Age 2*” (Cunliffe 1987: 207). Some vessels from Maiden Castle’s phase 7 consisted of “*the standard Durotrigean forms*” like “*bead-rim bowls (BC3)*” and “*necked jars (JE4)*” (Brown 1991: 196) which were regarded as “*Late Iron Age*” (Sharples 1991: 45). However, such types of vessels were separated from the “*Late Iron Age*” and were assigned to the “*Latest*” Iron Age presented in the renewed Danebury scheme (Cunliffe 1995: 18; see Table 6.18; see also Brown 2000a: 88-9).

Cadbury Castle’s excavations produced a number of chronological frameworks based on different approaches. Leslie Alock (1967, 1969) first provided a five-stage chronology of the site, using ceramic types and dated metal objects. The chronological scheme, which included absolute dates, used the conventional temporal terms. Soon after, information on the development of ramparts was added to the scheme (Alock 1972), before finally produced Cadbury Castle’s independent chronological scheme based on ceramic classification and site development (Freeman 2000: 23-4; *cf.* Alock 1980). In terms of chronological division, the criteria appear to have shifted somewhat from the ceramic types to the site development, which caused complex problems in understanding the site chronology.

Barrett (2000: 22) presented a chronological sequence of the site based on ceramic typological classification. In order to allocate absolute dates, metal objects, radiocarbon dating and other sites’ chronological schemes were used, although useful data on both the objects and dates were unavailable (*ibid*.: 23). Consequently, comparison between the site’s ceramic framework and Danebury’s scheme was used for dating (Woodward 2000b: 42; see Figure 3.10). It is important to note that the report adopted the Danebury scheme for typological classification of vessels from Cadbury Castle (Woodward 2000a: 325) and it also regarded the Danebury scheme as reliable (Woodward 2000b: 42).

In terms of chronological division, the report adopted a three-stage division for the site’s “*structural history*”: “*Early, Middle, and Late Cadbury*” (Barrett 2000: 22). The usage of “*Cadbury*” for the division terms is useful as it allows the distinguishing of the site chronology from others, the names did not directly correspond to other chronological divisions for the Iron Age. The report stated the nature of the relationship between the site’s chronological divisions and other chronological frameworks, for example: “*Early Cadbury*” broadly covered “*the late Bronze Age and early Iron Age*”; “*Middle Cadbury*” was assumed to have been associated with the "*middle and late Iron Age*" (Woodward 2000b: 43). However, as there were no specific references about which other chronologies were being compared, the identification of such relations does not seem to be meaningful for considering the site chronology in broader contexts. As noted above, there are a variety of chronological divisions and schemes, therefore, definite references should be presented for comparison of chronological frameworks.

Finally, the Danebury Environs Programme report produced a comprehensive ceramic chronological scheme for the Andover area, comparing materials from the regional sites with one another (Brown 2000a). According to the report (*ibid.*: 85), the scheme was established on Danebury's existing systems (Cunliffe 1984b, 1995) and presented various data on ceramic chronology, like "*ceramic phases*" and absolute dates. A number of new, dated, ceramic forms were also added to the scheme, but it is uncertain how the dates were identified as the information was not provided in the report. The main information on the scheme is arranged in Table 6.19.

The report also presented a different chronological framework for describing regional aspects such as economies, cultures and societies (Cunliffe 2000: 135-96). The framework involved three stages with absolute dates based on "*ceramic phases*" (see Table 3.23). The stages almost correlated with the ceramic divisions, however, the transition from the middle to the final stages is somewhat complicated. The later part of "*ceramic phase*" 7, regarded as the Late Iron Age, spanned from 270 to 50 BC and was incorporated into the final stage from 100 BC to AD 50 (*ibid.*: 186). This situation shows that the difference in criteria for chronological division can produce different chronological schemes, even when examined by one archaeologist.

3.2.4 Iron Age Chronologies of other British regions

This section moves beyond central-southern Britain and examines regional chronological studies in the rest of the country. For **Northern Britain** (**Scotland**), Stuart Piggott (1966) presented an influential chronological scheme covering four regions (Hunter 2007: 286): "*Tyne-Forth*", "*Solway-Clyde*", "*North-Eastern*" and "*Atlantic*" (*ibid.*: 4-5). His scheme followed Hawkes' system, but with revisions to account for independent Scottish characteristics in the Iron Age archaeological evidence:

> "*Iron Age 1, c. 550-350 B.C., and Iron Age 2, c. 350-150 B.C., are unaltered, but to suit the northern material I end Iron Age 3 (beginning c. 150 B.C.) at c. 80 A.D., and add an Iron Age 4, from this date to an uncertain lower limit in the third century A.D. or later, to denote native cultures contemporary with or surviving later than the Roman Occupation of Scotland*" (*ibid.*: 3; see Figure 3.9).

Piggott examined various cultural factors, especially settlement styles, for constructing the chronological framework. However, the distinction between cultures and periods in Piggott's work was unlikely to be as clear as in Hawkes' study (1959: 174).

Sally Foster (1989: 34; 1990: 143) proposed a four-stage scheme for the Atlantic Iron Age, based on settlement developments and social changes with common terms like "*Early*", "*Middle*" and "*Late*" employed (see Table 3.24). However, the absolute dates of the scheme's periods were notably different from Piggott's scheme (compare Figure 3.11 with Table 3.24). Foster (1989: 34) argued that the Atlantic Iron Age had continued until "*the arrival of the Norse*": his "*Late*" Iron Age was added to Piggott's Iron Age, which was adopted by subsequent studies, though some employed two-stage divisions without the

‘Middle’ period (*e.g.* Armit 1990: 1; Harding 1990: 5; Harding 2004: 4). This view appears to be because many Scottish areas were assumed to have been barely affected by “*the Roman conquest*” (Henderson 2007: 117).

In terms of dating, Northern British chronological studies have tended to rely on cross-dating by metal objects and radiocarbon dating, rather than ceramic schemes (*e.g.* Piggott 1966; Foster 1990; Armit 1991). This is likely to be due to a paucity of pottery, unlike many other regions, although a relatively large amount of vessels tend to be available from Scottish Iron Age sites in the Western Isles (*e.g.* Ritchie *et al.* 1978; Cool 1982). A number of regional studies proposed ceramic chronologies with other aspects (*e.g.* MacKie 1965, 1974; Young 1966). However, there were issues with ceramic typological classifications and their dating results, hence, the importance of presenting data on dates upon which scientific analysis relies has been highlighted (*e.g.* Topping 1987; Lane 1990).

Hawkes’ ABC system had often been used for regional Iron Age studies in south-western Britain (Cornwall), as well as other regions, until around 1970 (Quinnell 1986: 112). However, the system began to be rejected owing to the development of radiocarbon dating methods and critical studies citing the system’s reliance on invasion models. Consequently, a revised two-stage scheme, “*Earlier Iron Age*” and “*Later Iron Age*”, was accepted (*ibid.*: 112; see Table 3.25) and has recently been used as a common chronological framework (Cripps 2007: 143).

This two-division scheme was based on typological classification of vessels, especially their forms, with associated radiocarbon dates. However, the beginning date of the Cornish Iron Age was connected to the degree of ‘iron’ dissemination in the societies, which led to conflicting dates being proposed, one based on ‘iron’, the other a ceramic classification:

> “*The term Earlier Iron Age, when applied to, or derived from, pottery in Cornwall, in fact means Late Bronze Age/Earlier Iron Age. This confusing situation will not be resolved until there are further sites with a radiocarbon based chronology*” (Quinnell 1986: 112).

Although it was believed that the confusion in the chronological terms was due to lack of dating materials, it may also be attributed to the inconsistent usage of the chronological terms in the studies mentioned above. This issue will be considered in due course.

Similarly, Hawkes’ ABC system influenced Iron Age chronologies in Gloucestershire and its surrounding areas until around the 1980s, especially “*its terminology*” (Moore 2006: 22). Moreover, in terms of the three stages, Hawkes’ system also appears to have affected subsequent studies. For example, Alistair Marshall (1978: 9) proposed a three-stage chronological framework of the northern Cotswolds in the Iron Age, using different terms (see Table 3.26). However, two of these stages were broadly similar to Hodson’s scheme (compare with Table 3.2; Figure 3.4), although there was a notable difference in absolute dates between the schemes. Marshall’s framework (*ibid*.: 9) relied heavily on “*ceramic assemblages and their association with specific characteristics of hillforts*” as well as Cunliffe’s ‘*style zone*’. However, this also included the “*uncritical application of Cunliffe’s model*”, as well as issues with “*misidentification of pottery*” and “*dubious assumption of unenclosed phases*” made on certain sites (Moore 2006: 23). For the construction of chronology, Marshall (1978: 9) argued that cultural factors reflected temporal difference, this is similar to Hodson’s view that cultural division conforms to chronological division.

Alan Saville (1984: 141) adopted a three-stage framework for the Iron Age in Gloucestershire, though having noticed the confusion in Hawkes’ ABC terminology, thus he decided to use "*early*", "*middle*" and "*late*" (see Table 3.27). In terms of chronological divisions, his framework was composed of three stages, unlike Marshall's. Saville's approach for examining Gloucestershire's Iron Age chronology was based on archaeological evidence including hillforts, vessels and metal objects. However, its main tool appears to have been ceramics as their characteristics in individual periods were explained in more detail than the other factors.

Tom Moore (2006) recently re-examined the existing Iron Age chronologies in the Severn-Cotswolds, mainly using radiocarbon dates. He also assessed the effectiveness of various artefacts, such as ceramics, brooches and glass beads, for establishing the regional chronology. Consequently, the re-examination clarified that the first outstanding social change in Iron Age settlements and artefacts occurred around the fourth century BC (*ibid.*: 41). It was also suggested that various features arisen from such changes might have been maintained until "*the late 1st century BC / early century AD*" (*ibid*.: 40). This meant that the 'late' period identified particularly in south-eastern Britain was unlikely to be applicable to the Severn-Cotswolds. Consequently, it was stressed that the individual sub-divided periods composed of specific types of artefacts and settlements were "*as much cultural, as chronological, constructs*" (*ibid.*: 40; Moore 2007b: 47; *cf.* Willis 1999, 2005).

Finally, the traditional three-stage division was rejected for the regional chronology. Instead, a two-stage division, "*Early*" and "*Later*", was adopted on the basis of the great change in the fourth century BC (see Table 3.28). Further possible sub-divisions were also presented for the "*Later*" period:

> "*identifying the 'late' (or latest) Iron Age as a specific, cultural and contextual element of the 1st century AD. 'Middle' Iron Age is used only to refer to material*

prior to the 1st century BC or when referring to dating given by reports or other sources" (Moore 2006: 41).

In eastern Britain, as well as other regions above, the fundamental framework of the Iron Age chronology appears to have rested upon Hawkes' ABC system. Kathleen Kenyon (1950, 1952), for example, adopted the system for building a ceramic chronological framework in the east Midlands (Knight 2002: 120). Subsequently, Cunliffe (1968) typologically classified Iron Age pottery in eastern England and identified three ceramic groups. Each of them was called a "*style-zone*" named after "*a style of craftsmanship*", thus avoiding the use of the troublesome term "*culture*" (*ibid.*: 182-3). It was proposed that the ceramic "*style-zones*" also reflected their temporal differences, as a result of radiocarbon dates and cross-dating with continental materials. Consequently, the "*early pre-Roman Iron Age*" of the region constituted four stages according to the ceramic classification (*ibid.*: 183; see Table 3.29), this scheme was intermittently developed and revised (Cunliffe 1974, 1978, 1991, 2005; see Table 3.30).

David Knight (1984: 95-9) examined Iron Age vessels in the Nene and Great Ouse basins for establishing a regional ceramic chronology and presented their three-stage framework: "*Later Bronze Age/Iron Age 1*", "*Iron Age 2*" and "*Iron Age 3*" (see Figure 3.12). His approach for the chronology rested on the identification of ceramic groups through comparison of the stratigraphic evidence and use of radiocarbon dates and cross-dating. His recent study of another neighbouring region in turn provided a tri-partite scheme, which was comparable with Cunliffe's "*style-zone*" and the metal objects chronologies of both Britain and the continent (Knight 2002: 122-3; see Figure 3.13). This framework and its absolute dates were similar to his previous scheme (Knight 1984). Knight's ceramic chronology seems to rely upon the influence of the continental ceramics on their British counterparts. The appearance and dissemination of "*Belgic pottery*" are the main characteristics of his later periods (Knight 1984: 99), and the pottery groups themselves were named after La Tène (Knight 2002: 122).

In order to assess the Later Bronze Age and Iron Age in the east Midlands, Steven Willis (2006: 90) presented an "*'ideal' chronology*" which was proposed by Hill as a broad-perspective British Iron Age chronology (Hill 1995b; see Figure 3.7, Table 3.31). Based on examinations of various archaeological evidences in the region, inconsistency between the "*'ideal' chronology*" and regional circumstance was identified and summarised as an "*'actual' chronology*" (Willis 2006: 91-2; see Table 3.32). Regional ceramic changes were not necessarily likely to be applicable to those in the "*'ideal' chronology*", where it was stressed that the regional "*Middle Iron Age pottery styles*" in many sites might have been maintained into "*the Late Iron Age*" (*ibid.*: 90). This suggests that a two-stage division in the regional ceramic chronology could be more appropriate than the conventional three-stage division.

East Anglian Iron Age chronologies also appear to have relied on pottery. On the basis of Cunliffe's ceramic studies (Cunliffe 1968, 1974 *etc*.), refinements to the regional ceramic frameworks were made, many of which tended to use the conventional three-tier division of "*Early*", "*Middle*" and "*Late*" (*e.g.* Davies 1996; Martin 1999; Percival 1999; see Tables 3.33, 3.34). However, Hill (1999: 202) proposed "*the term Later Iron Age*" (after 300 BC) for the regional chronological division, which suggests a two-stage scheme rather than conventional tri-partite frameworks. The term was applied to the north areas of the region, taking into consideration the continuity of "*hand-made Middle Iron Age pottery*" (*ibid.*: 202). This regional characteristic was highlighted in comparison with the south areas of the region and south-eastern England (*e.g.* Hill 2002, 2007).

3.2.5 Criteria of chronological divisions: artefacts, cultures and societies

3.2.5.1 Some thoughts in the European contexts

In European Iron Age studies, there are similar problems to those outlined above in examining chronological divisions. The chronological terminology for the European Iron Age, '*Hallstatt*' and '*La Tène*', has commonly been accepted in many regions since the early twentieth century (see Figure 3.14) though one of the main issues is the difference between '*cultures*' and '*periods*'. The '*Hallstatt*' and '*La Tène*' periods used typological classifications of cultural artefacts, to establish the chronology (*e.g.* Milisauskas 1978; Collis: 1997; Wells 2002). There appears to be also a different approach to the chronological divisions, grounded on "*socio-economic changes*" (Shaw and Jameson 1999: 353).

However, the terms '*Hallstatt*' and '*La Tène*', which were often interpreted as cultures (*e.g.* Filip 1977; Phillips 1980; Champion *et al.* 1984; Darvill 2002). In other words, it seems that cultural groups reflected temporal divisions, which was different from the views of Childe and Hawkes above (see Figures 3.2 and 3.3). Sarunas Milisauskas (1978: 254) promoted awareness of this confusion between "*cultures*" and "*periods*", highlighting the difference in their locations and extent for the application of the terminologies. In terms of chronological division, their terminologies were confused between the "*cultures*" and "*periods*" in much the same way as the studies mentioned above. Kristian Kristiansen stressed that such confusion could cause misinterpretation of archaeological evidence, noticing the continuity of cultural factors:

> "*A cultural/ ritual change may then sometimes be mistaken for a chronological change. For example, Early Bronze Age chronology, from being based on hoards and a few burial finds, shifts its emphasis to burials with the advent of the Tumulus Culture. This makes it difficult to cross-date certain types of object. The transition from Ha B3 to Ha C represents another such change in burial ritual and material culture*" (Kristiansen 1998: 33-4).

This also suggests that more common cultural factors should be used for constructing prehistoric chronologies without an over-reliance on unique artefacts available from specific contexts.

Kristiansen (*ibid.*: 34) also suggested that the difference between "*conserving and innovating areas*" should be taken into account for building chronologies. Furthermore, he emphasised an important issue for the use of archaeological finds in establishing chronologies: "*the relationship between settlement chronologies and hoard/burial chronologies*" (Kristiansen: 34). The former rests on ceramic chronologies; the latter depends on those of various metal objects (*e.g.* Collis 1997). In other words, the chronologies of the different types of artefacts are unlikely to be comparable (Kristiansen 1998: 34). Nevertheless, standard European Iron Age chronologies used the terms '*Hallstatt*' and '*La Tène*' and tended to be based on the chronologies of specific types of artefacts available from hoards and elite cemeteries (*e.g.* Champion *et al.* 1984). However, there have been recent studies which constructed regional chronological frameworks using ceramics, considering correlations with common European chronologies (Collis 2008; *cf.* Waldhauser 1993; Paunier and Luginbühl 2004).

Christopher Pare (2008: 69) noted the difference between "*'phase' and 'period'*" for examining the purpose of archaeological "*periodization*". *'Phase'* is a chronological division for explaining "*changes in material culture*" and is identified with "*changes in fashion*" of archaeological finds (*ibid.*: 69). *'Period'* is "*used to designate fundamental historical structuration; the transition from one period to the next is characterised by transformation in all aspects of life*" (*ibid.*: 69). This relates to the confusion between social aspects, cultures and periods seen in a number of the above Iron Age chronological studies.

It can be inferred that individual cultural factors caused individual changes in both time and space. This could be based on the different production systems and cycles of use and discard for artefacts, creating very specific chronologies. Such individual chronologies of artefacts like ceramics or metal objects were selectively adopted for constructing regional chronological schemes. Chronological frameworks based on cultural groups were organised by comparing the chronologies of different archaeological finds. Those derived from social aspects rested on changes in economic, political and cultural circumstances. Both these chronological divisions deal with many factors and have varied criteria for the divisions. Therefore, their chronological divisions depend on a great many factors and become easily complicated when different chronological schemes are compared. These chronological divisions may be needed in order to reconstruct the events of the prehistoric periods, as Pare indicated. However, such divisions appear to be inappropriate for pure chronologies which should be more objective with specific common criteria. It seems that chronologies should primarily be time scales which allow the description of various changes and regional comparison to be made.

Collis (2008) recently reviewed Iron Age chronological studies in European contexts and proposed an approach for establishing chronologies. He first identified issues in existing chronological studies: 1) "*the question of correlating different categories of finds*" which may change at different rates; 2) "*the use of phases to date features*" which relied on "*typological considerations, and on comparisons with better dated material from the continent*"; and 3) "*the confusion of two types of chronology: typology and stratigraphy*" (*ibid.*: 85-6). Collis (*ibid.* 87-8) next examined three main typological approaches for constructing chronologies: 1) "*type fossils and phases*"; 2) "*horizons*"; and 3) "*seriation and sequence dating*", and indicated problems with approaches 1) and 3). Following assessment of stratigraphic approaches, he proposed the terms "*attributes*" and "*horizons*" for use in considering chronologies (Collis 2008: 95-9).

Collis (*ibid.*: 95) believed "*attributes*" to be more effective than "*types*" as they are more nuanced and work more usefully with fragmented pottery. However, he also noted that there were issues with "*attributes*" which could represent cultural rather than chronological differences: for example, differences in "*status*", "*gender*", "*workshop*" and other local traditions (*ibid.*: 95). Collis thus stressed the importance of selecting meaningful "*attributes*" for establishing chronologies, though the method of his selection is unclear. Another issue with "*attributes*" appears to lie in their continuities. Even if some "*attributes*" are identified as representing chronological features, they may have existed for long periods. In this case, "*types*" can be more useful than "*attributes*" for chronological division. This is because "*types*" are combinations of "*attributes*", thus, the former can narrow down the time variable more so than the latter. In terms of chronological divisions, the term "*horizons*" was considered more appropriate than "*phases*" or "*periods*" (Collis 2008: 95-7). Collis, on "*the concept of phases*", stated:

> "*It was closely linked with the concept of 'Culture Groups', and was based on the assumption that distinctive associated groups of finds could be defined in time and space, the so-called 'chest of drawers' approach; it was also linked with the concept of migration as a major form of explanation, and attempts to*

> *define difference between phases placed an emphasis on breaks rather than continuity*" (Collis 2008: 87).

Collis proposed that such terminologies should be limited to "*the phasing of a site*" and for the description of "*the finds from periods of time defined typologically*". He emphasised that they should not be "*a substitute for a chronology*" and "*the basis for detailed analysis of the chronology*" (*ibid.*: 95-6). Given the durability of the characteristics of archaeological finds (*ibid.*: 87, 91), the "*horizons*" concept, based on "*the arrival of a new attribute*", was recommended for constructing Iron Age chronologies (*ibid.*: 87, 97). However, his fundamental approach for the purpose appears to be traditional: "*the chronology will be based entirely on typological considerations, and all other forms of chronology (stratigraphical and absolute dating) will be subservient to it*" (*ibid.*: 97).

3.2.5.2 Issues on the criteria for chronological division

The above examination has shown that one of the main issues for construction of chronologies is that they are based on a variety of criteria for chronological division. There were also some studies which utilised existing chronological schemes without specifying the method for chronological division (*e.g.* Davies 1981; Darvill 1987; Elsdon 1989). The criteria can be broadly separated into four categories: 1) ceramics and metal objects; 2) cultural groups; 3) settlement and hillforts; 4) social aspects, which were sometimes mixed with others. Such diversity produced many different chronologies which may lead to confusion when they are compared. Various Iron Age studies were reliant upon such chronologies, which casts doubt upon our understanding of the Iron Age. Given these issues, it seems that a specific factor should be selected as a common gauge and used for chronological division.

Criteria 2) to 4), above, rely on the chronologies of artefacts and absolute dating by physical and chemical scientific methods. However, it seems that further categorisation within each criterion is often based upon relatively subjective views. The characteristics of these criteria can make chronological divisions vague when compared with those of artefacts. Therefore, criteria based on typological classification of artefacts should prove more appropriate for chronological division.

Brooches have been used extensively for considering British Iron Age chronologies. This is because they are useful in terms of comparable finds with continental chronologies and that their typological studies have been refined (*e.g.* Hull and Hawkes 1987; Haselgrove 1997; Jope 2000). However, brooches are unlikely to be a main chronological indicator as they were not so common in British Iron Age sites as they were not uniformly distributed in all time periods. There are also some issues with their use as a chronological tool: their "*manufacture, circulation and deposition/recycling*" (Haselgrove 1997: 51). Most brooches found from settlements do not appear to have been intentionally deposited, like burial and ritual goods. Hence, events between their production and final deposition, such as transportation, use, discard and re-deposition, are effectively unknown. The small size of brooches could be one of the main causes of re-deposition. This issue will be suggested in the case studies of Chapter 7 at Danebury in particular, where a relatively large number of brooches were found in excavation.

Similarly, coins are useful as a chronological indicator given their similar advantages to brooches. Furthermore, a large amount of coins have been found from many Iron Age sites (*e.g.* Haselgrove 1987; de Jersey 1996; Creighton 2000). However, since they only began to appear in the first century BC in Britain (Cunliffe 2005: 134), the period to which coin chronologies are applicable is confined to the last one hundred years or so of the Iron Age. Moreover, they share the problems of brooches: *e.g.*, although more than 75 Celtic coins are available from Danebury, only very few coins are usable in the site case study because of their stratigraphic circumstances. Due to this factor, the coins also appear to be inappropriate as a main chronological indicator. Other metal objects, such as weapons, mirrors and various containers, can also be chronological tools (*e.g.* Jope 2000; Cunliffe 2005), but these are uncommon in British Iron Age sites. Therefore, they are also unlikely to be relevant chronological indicators though they could be useful for the refinement of chronologies.

3.2.5.3 Approaches to the chronological division

Unlike metal objects, ceramics are common in British Iron Age sites though there are some aceramic regions in Wales and northern Britain (*e.g.* Harding 2004; Cunliffe 2005). As discussed in the later chapters, there are issues on their use as chronological indicators, and some studies proposed that ceramics were improper for this role (*e.g.* Hill 1995b, 2002). However, apart from specific absolute dating methods, many Iron Age studies have had to depend on ceramic chronologies for dating (Willis 2006: 90). Furthermore, as ceramics have a number of advantages in terms of their universality, amount, size and durability, they would be much more effective than other artefacts for use as a chronological indicator. In other words, it seems that chronologies based on ceramic typological classifications should be utilised as the primary chronological source for describing various aspects of the Iron Age.

It must be remembered that ceramic chronologies are simply specific standards which allow regional comparisons and syntheses to be made in order to lead to a fuller interpretation and understanding of the Iron Age. When ceramic chronologies are used to date contexts and settlements, careful examinations between ceramics and other dating factors should be conducted. In addition to issues on stratigraphy discussed in the previous chapter, "*the varying relation between pottery and other factors beyond chronology, such as accessibility, demand, status and identity*" has been cited as important (Moore 2006: 36; *cf.* Morris 1994; Willis 1996). These arguments are connected to Collis's concepts "*attributes*" and "*horizons*" (Collis 2008: 94-9).

When using classified ceramic types for constructing chronologies, it is appropriate to adopt common approaches like stratigraphic examinations, cross-dating with dated objects and chemical and physical dating. If it is unfeasible to use such approaches because of site and material conditions, established ceramic chronologies should be compared with well-defined chronological frameworks in surrounding areas.

It is important to establish independent ceramic chronologies in individual sites, based on definite typological classifications. As seen above, a number of studies have either followed existing predominant chronological schemes, or simply accommodated ceramics from nearby sites to inform the scheme. However, this approach may disregard ceramic characteristics in individual sites, and it can also prevent re-examination of influential schemes and the application of more appropriate site comparisons. Given these issues, site independent ceramic chronologies appear to be necessary for continuing to refine chronologies.

Based on such independent chronologies, broader ceramic chronological frameworks can be established at different geographical local, regional and national levels. In general, the broader the chronological area, the less common chronological divisions covering the areas would be. This is because the criteria for such divisions, when applied across a large geographic area, are likely to be less nuanced then when a single site is analysed.

Other artefact chronologies should be based on ceramic schemes, using these as standard chronological measures for each geographical level (see Figure 3.15). A variety of factors for Iron Age societies, such as culture, economy and society, should also be examined in the same way. In other words, it seems that the chronological division of the Iron Age should be confined to ceramic chronologies with absolute dates, this specific criterion effectively reduces confusion and other problems in the existing chronologies examined above.

3.2.6 Conclusion

Chronological divisions are very important for discussing the development of Iron Age societies, and many other aspects such as economy and culture, as their studies divide them into manageable frames of time. Approaches to the method of division depend on the study, but they should be cross-comparable for the discussion to develop. As most chronologies have absolute dates, the comparison may be feasible. However, various factors such as artefacts, cultures, settlements and social aspects, are used to identify absolute dates, therefore, the chronological divisions tend to be confused with each other because of these different factors. Such complicated circumstances were identified in the above examinations of the British Iron Age studies from broader and regional viewpoints. This confusion has caused problems in interpretation and made diverse discussions complex.

Consequently, it was recommended that a specific criterion for chronological divisions should be defined to avoid such a complex and confusing situation. Following the examinations of various criteria, ceramic chronologies have shown a number of advantages and could be useful for this purpose. Other artefact chronologies and a variety of the Iron Age aspects should be assessed by using absolute dates and ceramic chronologies as a standard scale in time. However, ceramic chronologies are not a universal tool for constructing Iron Age chronologies. They have issues with their use as a chronological indicator (*e.g.* Hill 1995b, 2002) and require the use of different chronologies and absolute dating by physical and chemical methods to allow the establishment of more reliable ceramic chronologies.

3.3 Other issues on pottery studies in Britain

3.3.1 Production

A number of stages in the manufacturing process of pottery include much information useful for understanding making technology and production systems of pottery. The information can also help us to consider chronology, regionality, distribution of pottery and various social aspects. Though the detail of the stages may have been complicated and varied from site to site or from community to community (*e.g.* Shepard 1956; Rice 1987), they appear to be summarised as Orton (1993: 114) presented: "*1 Procurement of raw materials, 2 Preparation of raw materials, 3 Forming the vessel, 4 Pre-firing treatments, 5 Drying, 6 Firing, 7 Post-firing treatments*". However, studies of pottery production in the Iron Age, including techniques of manufacture, have been unpopular, due to such unchangeable nature of the process until the Later Iron Age (Hill 2002a: 76; *cf.* Gibson 2002b; Hamilton 2002).

This changed with the introduction of the wheel-turned vessels which has been noted since early studies as an epoch-making factor for the sub-division of chronological frameworks (*e.g.* Hawkes and Dunning 1931; Hodson 1964; Cunliffe 1974; Collis 1977b; Rigby and Freestone 1997). The wheel-turned products are mainly related to changes in "*3 Forming*" and "*4 Pre-firing treatments*". However, if a production system including the new technology was introduced from a civilised area into Britain, there were also probably changes in other stages of manufacturing process. Such changes can be examined with comparisons of raw materials, hardness and surface treatments. Meanwhile, J.D. Hill (2002b, 2007) has recently stressed changes in food styles as the background for the introduction of continental pottery styles, introducing another factor in the change of pottery vessels beyond the shift in manufacturing techniques. He also has suggested the importance of examining symbolic aspects of production processes themselves, including raw materials and surface colours (Hill 2002a: 76-7).

The introduction of new techniques also can provide insight into the specialisation of pottery production (*e.g.* Vincentelli 2000: 48; David and Kramer 2001: 317). According to Hamilton (2002: 47; *cf.* Fig. 5.4), production modes of prehistoric pottery can be classified into four types: "*Household production, Household industry, Workshop industry and Itinerant specialists*", based on three criteria: "*i) the intensity of labour investment in production, ii) the complexity of the technology involved, and iii) the accessibility of raw materials utilised*". There are specialists for pottery making in three modes except the "*Household production*" mode. However, the specialists in each mode have different ways of making pottery and activities from each other. There also might have been mixed modes in some regions of the Iron Age. These highly affect interpreting of regionality and distribution of pottery. In terms of this study, such differences in production modes can be highly reflected in those of the number of classified ceramic types. In other words, the degree of specialisation of pottery making can have a relation to the diversity of the ceramic types, and therefore, this issue is important for considering structures of ceramic assemblages.

Specialised production of Iron Age pottery has long been discussed, using decoration patterns, surface treatments and fabrics in addition to the wheel-turned vessels. It seems that the specialised production had already appeared in the Late Bronze Age (Hamilton 2002: 49). Cunliffe (2005: 504) also indicated the existence of production centres of pottery in the earlier Iron Age, showing fine and standardised types of pottery, such as scratched cordoned bowls of Wessex and a saucepan pot assemblage of Salisbury. He (*ibid.*: 505) further noted that:

> "*It is, then, becoming increasingly clear that the manufacture of fine pottery was a specialist craft by the first century B.C. and the probability remains that specialisation in some regions dates back to the fifth century or even earlier*".

However, both sophisticated kilns and production centres themselves have not yet been identified (*ibid.*: 505), hence, issues on centralised production and the role of specialists need to be further explored. Petrological analysis, examinations of decoration patterns, shapes of pottery and manufacturing techniques also need to be utilised for further understanding organisations of pottery production.

Studies of decorations and pottery motifs have revealed the complexities of the various techniques and patterns. However, these have also played a role in the identification of regional groups (*e.g.* Cunliffe 1984b; Knight 1984; Brown 1991b; Hamilton 2002). In considering "*roles*" and "*meanings*" of the decorations and motifs, it is important to compare with equivalents on other materials including containers (Hill 2002a: 80). Some studies on this issue have shown a close relationship between designs on pottery, metalwork and woodenware (*e.g.* Elsdon 1976; Barrett 1980; Cunliffe 1991). These comparisons could also be useful for exploring production systems between different artefacts.

Issues on shape and colour by slip and firing have been raised as subjects for future studies, especially given the insight of ethnoarchaeological works and ceramic studies of other ages (Hill 2002a: 79-80). Another potential issue relates to the gender of potters, this is important for examining production systems and social organisation, as seen in the previous chapter. However, it seems that this issue has been hardly undertaken, hence, further studies are required (*ibid.*: 83). Furthermore, fabric is a key issue for identifying production centres and regional groups and for weighing its cultural meanings, this will be reviewed in the next 'distribution' section.

3.3.2 Distribution

After the late 1960s, ceramic distribution studies became increasingly popular as they were used to explore exchange systems and distribution networks. David Peacock (1968, 1969; see Figure 3.16) triggered this trend, using petrological analyses useful for identification of pottery sources. He examined the Malvern and Glastonbury wares in south-western England and compared their fabrics with their typological classifications and distributions. Regional groups of pottery were then identified, using correlations between the three elements. The particular sources of the ceramic fabrics were also examined, these inferred that certain vessels had been transported over long distances, which suggested the existence of production centres with specialist potters. In other words, it was regarded that the pottery distribution represented signs of trade rather than regional groups. However, studies critical of Peacock's interpretations, including John Collis's work, argued that:

> "*Certainly Glastonbury style pottery was made at several different places (Peacock 1968), and economics cannot explain all similarities and differences. Equally, what*

> *we know of the nature of trade in pre-capitalist societies suggests goods do not necessarily follow logical economic patterns, but flow along social channels, such as kinship or political networks*" (Collis 1994: 129).

Collis (*ibid.*: 129) argued that distribution of ceramic types were associated with "*styles of living*" and groups of "*ethnicity*" and "*kinship*", regarded it as "*socio-economic*" (*cf.* Collis 1977a).

Peacock's interpretations were also discussed by Charles Blackmore *et al.* (1979) who classified the distribution of motifs on Glastonbury ware into two groups: the first, a localised distribution in a core area of southern Somerset; the second, a broader distribution with the same centre. These distributions of decoration patterns did not necessarily correlate with Peacock's petrological groups meaning that the distributions may have reflected identities of cultural and tribal groups rather than trade spheres.

Despite this criticism, studies similar to Peacock's continued to be undertaken by a number of archaeologists (*e.g.* Morris 1981, 1985; see Figure 3.17; Brown 1997; Cunliffe 2000). Elaine Morris (1994: 377-8), for example, examined changes in pottery production in the Middle Iron Age of Britain and then, highlighted that local productions had been abandoned in areas such as Devon and Cornwall, whilst productions in specific parts of western England had been becoming increasingly important. Based on these changes, three systems of pottery production in the latest pre-Roman Iron Age of Britain were proposed: 1) "*few or concentrated production locations: regional, and extra-regional distribution*"; 2) "*mixed system: local and concentrated production locations: both local and regional distribution*" and 3) "*local production and distribution*" (Morris 1994: 382; see Figure 3.18). Cunliffe (1991: 462) also noted that:

> "*It is, then, becoming increasingly clear that the manufacture of fine pottery was a specialist craft by the first century B.C. and the probability remains that specialisation in some regions dates back to the fifth century or even earlier*".

However, both sophisticated kilns and production centres themselves have not yet been identified (*ibid.*: 462), hence, issues on centralised production and the role of specialists need to be further explored. Petrological analysis, examinations of decoration patterns, shapes of pottery and production techniques all need to be utilised.

Morris (1994) also examined production and distribution of salt and its containers. The circumstances of the production and distribution of both vessels and salt containers were examined to see if a model of hillforts as central places, which controlled the distribution of various commodities, could be supported (*e.g.* Cunliffe 1991). In terms of the pottery production, local production had been predominant in many regions. Regression analysis of exchanged vessels showed classic 'down-the-line' patterns of exchange systems from the Middle to Late Iron Age (Morris 1994: 378-9). It was also indicated that there was no evidence for manufacture of pottery at hillforts, although the production systems would have varied by region during the Middle Iron Age. For the salt containers, the distribution of the Cheshire source revealed a 'down-the-line' pattern of exchange systems, whilst the Droitwich source showed a restricted spatial pattern (*ibid.*: 385-6). Based on this, it was stressed that salt production had already started before the appearance of the "*regionally-distributed*" vessels and the Iron Age, leading to a conclusion that the salt production had been uncontrolled by hillfort cores. Thus, Morris's study demonstrated that there were distinctions in production and distribution between ceramics with different functions, this has also been highlighted in her similar studies in other regions (*e.g.* Morris 1981, 1994, 1996, 1997). This approach would be useful for considering trade of other ceramics including amphorae (*e.g.* Cunliffe 1991: 438-42). Furthermore, comparisons of production and distribution between ceramics and other artefacts, such as glasses, metal objects, querns and textiles, are important approaches for understanding production and distribution systems in Iron Age societies in Britain.

However, it seems that there are two main points to be re-considered for the methods of analysis in Morris's study. Firstly, the durations of arbitrarily defined periods based on ceramic chronologies must be considered. The spans of the periods adopted in the study range from one hundred to four hundred years: "*Earliest-Early: 800-500/400 BC*", "*Middle-Late: 400-100/50 BC*" and "*Latest Pre-Roman: the last century of the pre-Roman Iron Age*" (Morris 1994: 375-81). The individual distributions represent results of pottery accumulation during such long spans. This suggests that the distributions reflect overlaps of distributions of many sub-divided periods: one distribution might be an unchanged pattern throughout a long period, or it could be an assemblage of several different patterns during the period. Given the "*formation process*" of pottery (*e.g.* Schiffer 1972, 1976), various types of usage and transport should also be taken into account, distribution systems, "*gift exchange*" and "*seasonal movement of peoples*" should all be considered (Hill 2002a: 77). Consequently, there is a need to divide periods into sub-phases in order to approach the actual situations of ceramic distributions.

Secondly, the distance in ceramic distribution is important. Dean Arnold's model (1981, 1985) is often cited in order to define "*local*", "*non-local*" and "*intra-regional*" production and distribution of ceramics (Morris 1994, 1997). This model, constructed by ethnographic research, revealed three types of ranges where potters could travel on foot from their houses to obtain proper clays and crucial fabrics: 1) "*potters were willing to travel up to 7 km*" to acquire the clays "*in 84% of his 111 ethnographic examples*"; 2) they "*were willing to travel up to 10 km*" for the fabrics in 97% of them and 3) most potters travelled "*less* *than 5 km*" for obtaining essential materials. However, caution is required for the adoption of this ethnographically defined model to Iron Age ceramic studies, geographical and social factors also need to be taken into consideration. In terms of the geographic factors, water transportation via rivers, lakes and seas, was important for examining potters' activities. It allowed for the movement of heavy ceramic materials when compared with land carriage on foot, especially where there is rugged terrain. It can also influence discussions on the exchange and distribution of pottery. With social factors, besides gift exchange and seasonal movement, as mentioned above, marriage and rituals between communities could also be significant for distribution patterns as they can cause irregular movements of ceramics.

Apart from these studies, discussions on cross-channel exchanges of vessels have been recently popular (*e.g.* Cunliffe 1974, 1997b; Sharples 1990; Fitzpatrick and Timby 2002; Henderson 2007). It is generally believed that there were notable changes in ceramics from some southern parts of Britain where wheel-tuned vessels and amphorae were introduced from the continent with other diverse commodities (*e.g.* Cunliffe 1984d, 1987). One of the most important sites for this is Hengistbury Head in Dorset, which is located facing the channel. The site excavations produced a large amount of continental ceramics which allowed the reconstruction of cross-channel exchange networks. The site was regarded as a crucial settlement for the import and redistribution of external commodities (*ibid.*; see Figure 3.19). However, re-examinations of the site and its patterns of exchange have been undertaken in recent studies. Andrew Fitzpatrick (2001) analysed proportions of ceramic imports, including amphorae and Armorican vessels and considered the relations between local and continental ceramics. Consequently, it was inferred that the site had been utilised seasonally for trade (*ibid.*: 94). This study hints at the complexity of many aspects of ceramic exchange in the later Iron Age of southern Britain.

3.3.3 Usage

Studies of ceramic usage are composed of various issues: "*how pottery was manufactured for use (the ideas and practicalities behind its creation), the many roles it has played in the transformation of produce (cooking, storing, preparation and presentation), how it was employed in the spheres of life and death (for food and for human remains), and how it was removed from the living world (deposition)*" (Morris 2002: 55). These issues could be broadly separated into practical functions and symbolic meanings.

It is inferred that the practical function of pottery is basically associated with food cultures where potters plan to manufacture different types of vessels for different purposes in the culture (*ibid.*: 54-5). Hence, different ceramic types can be reflected in differences in changes in shapes, sizes, fabrics and surface treatments (Hill 2002a: 79). These are based on ceramic classifications, with many pottery forms adopting terminologies for different types of vessels which suggest their functions, like "*jars*", "*bowls*" and "*saucepan pots*" (*e.g.* Barret 1980; Cunliffe 1974, 1984b; Brown 1987a). As will be discussed, this involves significant issues.

Size analysis has recently been used to identify ceramic functions. Ann Woodward (1997: 28; see Figure 3.20) classified Iron Age vessels from Cadbury Castle in Somerset into three groups, based on differences in ceramic volumes, "*low*", "*intermediate*" and "*tall*". The functions were inferred in turn as "*eating and drinking*", "*serving and food preparation*" and "*bulk storage*" (*ibid.*: 29). However, there are problems with this approach. The volumes were considered based on correlations with ceramic diameters, but they relied on only 38 examples in complete profile. This is unlikely to be an adequate amount of samples. Additionally, rim diameters appear to not always be in proportion to heights, according to the case studies presented in this research (see Chapters 5 and 6). Given these issues, Rachel Pope (2003) examined relations between ceramic restrictions and functions, using functional classifications of vessels in ethnographic studies. This presented different characteristics of ceramic use between Iron Age sites in Dorset and their changes in chronological developments. Hill (2002b) used a similar approach, providing regionalities and changes in ceramic usage in East Anglia with more detailed analysis where different types of food cultures were highlighted (also *cf.* Barrett 1989; Willis 1994).

However, actual ceramic usage does not necessarily correspond to intended use. Issues on how individual vessels were used in the past require careful examination of their circumstances of depositions and residues (Morris 2002: 58-59). Symbolic meanings of pottery can be considered through such analysis. Common approaches include studies focusing on rituals, burials, monuments and settlements where ceramics are deliberately broken and deposited (*e.g.* Hill 1995a; Gwilt 1997; Pollard 2002). However, it seems that such Iron Age pottery studies have not been as widespread as those of Neolithic and Bronze Age pottery. This could be due to differences in trends of ritual cultures between the ages: Iron Age rituals tend to be recognised in settlements whilst Neolithic and Bronze Age rituals are likely to be identified in burials and monuments (Hill 2002a: 81-2). It can be assumed that the primary conditions of rituals tend not to remain in settlements because of the more intense disturbances of their contexts in later periods. Thus, there could be difficulty in the availability of sufficient materials for analysis.

3.3.4 Social organisation

British prehistoric pottery studies have tended to eschew issues on social organisations because of the "*simplicity and limited range of pottery in use*" whilst "*Late Pre-Roman and Roman Iron Age*" studies have addressed these issues through the above studies of pottery (Hill 2002a: 82). Studies of production and distribution have been particularly useful for considering "*issues of social hierarchy and organisation*" in Iron Age communities (*ibid.*: 82). Colin Haselgrove (1982), for example, examined social changes in the late Iron Age of south-east England, focusing on prestige goods systems and exchanges with continental regions including the Roman world. His study analysed distributions of ranked burials and various imports from the continent, such as, coins, *amphorae, terra sigillata* and Gallo-Belgic ceramics (*ibid.*: 83-5). Haselgrove's study concluded that the establishment of exchange systems with the continent had brought crucial changes in social organisations to the region. Furthermore, he demonstrated a hierarchical social structure in the region, showing relationships between a "*core area*" and "*peripheral zones*" (*ibid.*: 86). Cunliffe (1987, 1988) also presented the same model for southern and eastern Britain as frontier areas of trade with the continent. However, the "*core-periphery*" models (Cunliffe 1988: 200) have been critically reviewed, citing various issues including how to interpret archaeological evidence (*e.g.* Fitzpatrick 1989, 2001; Sharples 1990).

Furthermore, studies of social organisations need to consider wider socio-cultural aspects (*e.g.* Cunliffe 1984c, 2000, 2005; Willis 1999; Moore 2006; Hill 2007). For instance, in order to present social narratives in Wessex, Niall Sharples (2010) assessed various factors, environmental circumstances, exchanges of vessels, stone tools, metal objects, mechanisms of settlements and burials. A study of social organisation requires not only analysis of such comprehensive factors, but also logical consistencies between these complex facets. This difficulty and complexity could be another reason for the unpopularity of such studies.

3.3.5 Summary

According to the above reviews of Iron Age pottery studies in Britain, it seems that there are three main stages in their developments. Firstly, from the later first half to the earlier second half of the 20th century, culture-historical studies based on pottery classifications were predominant. These studies tended to focus on the regionality and chronology of pottery, but their approaches have been heavily critiqued through developments in other subject areas. The advent of accurate scientific methods also affected culture-history models, especially in terms of refining ceramic chronologies. These trends appear to have caused the stagnation of ceramic classifications as a fundamental study area in archaeology.

After the 1960s, studies of ceramic production and distribution began to prevail. This was stimulated by petrological analysis, which Peacock introduced to Iron Age ceramic studies. Such studies have been useful for examining economic and social aspects of dynamic Iron Age societies, though as always, they have certain issues that need to be re-examined. Developments of such studies have also allowed the reconstruction of social organisations as part of their models. This process is part of broader trends in processual archaeologies and their theoretical contexts as they developed out of the introduction of scientific methods and ‘straightforward’ models of Iron Age societies.

Finally, it seems that studies of ceramic usage have been widespread since the 1980s. Their concerns tended to focus on the roles and meanings of pottery in Iron Age societies, exploring not only its practical function but also its symbolism. This can lead to an understanding of the socio-cultural aspects associated with pottery and can also show their changes and regionalities through ceramic chronologies. Given their approaches, recent studies relate to trends of post-processual archaeologies in their theoretical context.

All the above ceramic studies have contributed to developments of Iron Age studies in different ways. However, the stagnation in the field of pottery classifications should be reversed as they sustain diverse studies. In terms of spatial viewpoints, the revision of contents and identifications of certain types of vessels would allow their distributions to be modified. Furthermore, this modification might prompt the amendment of the dominant interpretations of exchange systems and social organisations. Although many pottery classifications and chronological frameworks have been presented in Iron Age studies and excavation reports, their methods have not always been fully developed. This suggests an uncertainty in their conclusions, with a number of issues being highlighted with existing approaches to ceramic classifications, as discussed in Chapters 4 and 7. Given this situation, the following pieces of work should be focused upon: 1) re-examinations of existing ceramic classifications and their methods; 2) explorations of new classificatory methods; 3) practical analysis with case studies and 4) reviews of the analyses, specifying and discussing issues on the construction of chronologies.

3.4 Regional setting: central-southern Britain

This research selects central-southern Britain (Wessex) because Iron Age studies of this region have been important and influential for other areas of Britain and there are large quantities of pottery available (*e.g.* Hill 1995b; Haselgrove *et al.* 2001; Willis 2002; Moore 2006). Sharples (2010) has revealed the background to the area, highlighting the great influence of Iron Age studies in Wessex, citing Bill Bevan's statement as an example (*ibid.*: 9):

> "*There was 'a Wessex dominated conceptualization of later prehistory in Britain where interpretations of many northern and western regions are based on taxonomic comparisons with dated Iron Age sites in the south of Britain' (Bevan 1999a: 2)*".

The main causes of this influence lie in the history of British prehistoric studies. The majority of prehistoric site excavations have been carried out in Wessex, with many eminent archaeologists associated with the region. This list includes Pitt Rivers, Piggott, Hawkes, Cunliffe, Bradley and Collis, who all contributed to the developments of excavations and studies of the region (Sharples 2010: 9). Wessex also has advantageous historical and environmental circumstances in Wessex which have led to the survival of archaeological evidence (*ibid.*: 10):

> "*One of the most important features of the archaeological record of Wessex is that it is very visible and well defined. In contrast to most of southern Britain this is a rural area, which at the beginning of the twentieth century had not been extensively cultivated. Much of the region is relatively high ground and the severity of the winter climate and the poor quality of the soils on the chalk downlands discouraged cereal cultivation. As a consequence most of the landscape was given over to sheep grazing, probably since the end of the Roman period*".

Additionally, the large monuments characteristic of the area have also attracted archaeologists' interests.

The large amount of Iron Age pottery may reflect the cultural situation in the region. In contrast to northern and western Britain, where vessels made of "*organic materials*" appear to have been common, eastern and southern parts including central-southern Britain had been manufacturing and using pottery since the Neolithic Age (*ibid.*: 11; Cunliffe 2005: 87-124). Consequently, the plentiful supply of pottery in Wessex has allowed notable refinements of its classificatory and chronological studies when compared with other regions. As Sharples (2010: 12) stressed, in order to develop Iron Age studies of other regions, the use of archaeological materials in Wessex would be advantageous. This is because it can produce various approaches and discussions which other regional studies are unable to provide. For these reasons, this research will examine classifications and chronologies of ceramics from central-southern Britain, focusing on specific sites (see Figure 3.21).

The selection of the case study sites was based on searches of published sources, including excavation reports, where ceramic illustrations are presented. The searches led the selection to the Andover area where a viable amount of materials seemed to be available from different dispersed sites. This area also includes one of the most important Iron Age sites in central-southern Britain, Danebury in Hampshire, whose excavations produced huge quantities of ceramics. As discussed below, the detailed classifications and chronologies of the materials (Cunliffe 1984b) have influenced many subsequent studies. Therefore, it seems that re-examinations of the influential methods and schemes should be valuable. However, for the purpose of exploring useful methods, ceramics from Hengistbury Head will be analysed in advance of examinations of materials from the Andover sites. This is because Hengistbury Head is important for considering relations between inland Britain and the continent and also produced huge amounts of ceramics suitable for classification. The time span for this study spreads from around 800 BC to the middle of the first century AD in the light of current studies of southern Britain (*e.g.* Haselgrove *et al.* 2001; Cunliffe 2005; Haselgrove and Moore 2007; Haselgrove and Pope 2007; Sharples 2010).

Chapter 4

Methods: pottery classification and typology

4.1 Introduction

The use of artefact classifications for constructing spatial and chronological frameworks has been a fundamental part of prehistoric archaeology since its inception. Pottery has been commonly utilised for dating features, contexts and sites through its classification and stratigraphic information. This led to a basic 'culture-historical' approach which was eventually rejected with various scientific methods for more precise dating introduced to Iron Age pottery studies from the middle of the twentieth century onwards. Moreover, the study of pottery expanded under the influences of processual and post-processual archaeologies. Consequently, the role of pottery as chronological and regional makers began to be undermined, leading to a stagnation of studies of ceramic classifications.

However, pottery classifications should continue to be re-assessed for the following important reasons: 1) excavations produce new pottery data; 2) scientific dating methods have a number of limitations; 3) existing classification methods may be flawed, affecting related studies. These factors apply to current Iron Age pottery studies, suggesting the necessity of re-examinations of both ceramic classifications and chronologies.

This chapter will focus on issues with ceramic classifications as the foundation of pottery studies. Firstly, theoretical studies are broadly surveyed to explore useful approaches for Iron Age pottery. Secondly, classification studies of Iron Age pottery in Britain are reviewed in order to identifying their characteristics and problems. This will focus upon whether existing methodologies are valid for future studies. Finally, given these examinations, the concepts and approaches adopted in this thesis will be presented in reference to typological studies of Japanese prehistoric pottery, which is often ignored in western scholarship.

4.2 Typological classification of prehistoric pottery

As seen in previous chapters, pottery classifications are generally viewed as the first step in pottery studies. The characteristics and aims of classifications are summarised as follows:

> "*The object of a classification is to create groups whose members are very similar (high within-group homogeneity) while the groups themselves are very dissimilar (low between-group homogeneity). The principle is that the similarity of entities within groups does not occur by chance but reflects something inherently significant in their nature. In the case of pottery, groups are usually based on certain common features of material, technique, and style, and their significance is interpreted culturally*" (Rice 1987: 274-5).

Based on this principle, various approaches and concepts have been presented for pottery classifications. For example, Prudence Rice (1987: 275) indicated that there were two approaches: "*ethnotaxonomic or folk classification*" and "*devised classification*". The former is useful for identifying actual classifications in each society and culture as it is based on more direct investigations, like interviews and records. Though the "*ethnotaxonomic or folk classification*" might provide clues for understanding classifications of prehistoric pottery, care is required for its application, considering chronological and regional contexts in prehistory. Meanwhile, the "*devised classification*" can be regarded as formal and scientific, according to Roger Blashfield and Juris Draguns's (1976: 574) comments on its significance:

> "*Formal classifications structure the domains of inquiry of scientific disciplines by furnishing a system for describing and naming the objects of study within a science; fostering communication within a science through shared terminology and nomenclature; permitting predictions about the relation of the classified items to other objects studied within the science and serving as extensions of and empirical justification for concepts used within the body of theory of that science*".

In other words, this type of classification is an appropriate method for archaeology as a social science.

In such classifications, artefacts including pottery are separated into groups composed of similar features called 'types'. There are broadly two different views of 'types' (Rice 1987: 275). Firstly, Albert Spaulding (1953: 305) stated that they can be seen as combinations of artefact attributes:

> "*The artifact type is here viewed as a group of artifacts exhibiting a consistent assemblage of attributes whose combined properties give a characteristic pattern. This implies that, even within a context of quite similar artifacts, classification into types is a process of discovery of combinations of attributes favored by the makers of the artifacts, not an arbitrary procedure of the classifier*".

Jeremy Sabloff and Robert Smith (1969: 278), who introduced a hierarchical classification system called "*the type-variety system*" into studies of Maya pottery (Smith, Willey and Gifford 1960), also utilised a similar understanding of 'types', defining as "*an aggregate of visually distinct ceramic attributes*", such as form and decoration.

The second position regards 'types' as a categorisation of features (Hodson 1982: 23). For example, Robert Whallon and James Brown (1982: xviii) defined 'types' as follows:

> "*The common working definition of a type was that of a group or class of items that was internally cohesive and separated from other groups by one or more discontinuities*".

The difference between these viewpoints depends on which attributes, or their combinations, is focused upon when classifying ceramics. These standpoints represent how archaeologists understand artefact assemblages, but the differences do not seem to cause great distinctions in practical classifications, as long as both approaches are based on meaningful classificatory attributes.

Meanwhile, Julian Steward (1954) divided 'types' into four categories: "*morphological*", "*historical-index*", "*functional*" and "*cultural*". The "*morphological*" type is "*the most elementary kind, since it is based solely on form – on physical or external properties*", and is descriptive for categories of artefacts. The "*historical-index*" type is "*defined by form*", however, it has "*chronological, not cultural, significance*", that is, "*a time-marker*". The "*functional*" type is "*based on cultural use or role rather than on outwards form or chronological position*". Finally, the "*cultural*" type is "*a classification of whole cultures in terms of the functionally most important features*". This four-part 'type' concept corresponds with Rice's classification of "*devised classification*" and "*ethnotaxonomic or folk classification*". In terms of "*devised classification*", Steward proposes that identification of ceramic 'types' should be based on classifications of pottery forms. In relation to this, David Thomas (1979: 213) regarded 'types' as fundamental units of classification which "*are abstract forms, ideal constructs created by the archaeologist to facilitate analysis*".

Additionally, 'types' can be regarded as intrinsic entities which can be distinguished by statistical analysis (*e.g.* Spaulding 1953). David Clarke (1968: 188) defined a "*type (specific artefact-type)*" as "*an homogeneous population of artefacts which share a consistently recurrent range of attribute states within a given polythetic set*". Then, he adopted scientific approaches, such as statistical and computer analyses, for examinations of archaeological evidence criticising "*the intuitive manner*" where "*'historical narratives'*" were explored with inadequate analysis of primary materials (Trigger 1989: 316-7). According to these studies, it seems that 'types' can be regarded as basic units of artefacts which have common and consistent factors mainly based on visual points, although there are differences in detailed viewpoints between the above studies.

In sites, areas and regions, once 'types' are established they then need to be arranged in chronological order, where 'seriation' methods with examinations of stratigraphy should be employed. These methods are defined as "*a descriptive analytic technique, the purpose of which is to arrange comparable units in a single dimension (that is, along a line) such that the position of each unit reflects its similarity to other units*" (Marquardt 1978: 258). Though there are several approaches which depend on the circumstances of the archaeological data, these will be discussed in Chapter 8 where issues on relative chronologies are also covered.

In summary, prehistoric pottery studies begin with classifications based on the identification of 'types'. As noted, these are regarded as fundamental pottery units in this research. Such classification studies are referred to as a ‘typology’ in a number of disciplines, as noted in Chapter 2. However, archaeology has its unique definition, for example:

> “*Typology is in part purely taxonomy and classification and in part the ordering of artifact-type or assemblages in increasing functioned efficiency and in seriated sequence of affinity and matching attribute oscillations*” (Clarke 1968: 205).

In other words, the definition includes not only classifications of artefacts but also their arrangements in chronological order. This highlights the importance of the concept of time in archaeology when compared with anthropology and linguistics. Thus, typological classifications; using ‘seriation’, stratigraphic information and scientific methods; accompany the construction of ceramic chronologies in this study.

4.3 Typological studies of Iron Age pottery in Britain until the 1970s

Since Christian Thomsen presented the term ‘Iron Age’ in the early 19th century, vast amounts of Iron Age pottery have been recovered in Britain and arranged in chronological order in individual sites and regions (Cunliffe 1978: 1). Such typological studies were developed through the late 19th to the early 20th centuries, though they tended to be utilised chiefly for examining continental influences on Britain (*ibid.*: 2-3). The ideology of Victorian imperialism is likely to have contributed to the development of invasion hypotheses by archaeologists such as John Abercromby, Osbert Crawford and Harold Peake (*ibid.*: 3). This was followed by Christopher Hawkes who presented three historical stages of Iron Age Britain (Hawkes *et al.* 1930, Hawkes 1931, Hawkes *et al.* 1931).

Hawkes' pottery studies concentrated on identifying imported ceramics from the continent to Britain for constructing chronological frameworks of Iron Age Britain. Consequently, typological classifications of indigenous British pottery were not a focus of his studies.

R.E.M. Wheeler (1935: 273-4) re-examined Hawkes' *ABC* system in an interim report of Maiden Castle in Dorset, focusing on regionalities in Britain. The examinations divided "*Iron Age A*" by Hawkes into three stages, "*A1*", "*A2*" and "*AB*", and were based on ceramic classifications. For example: "*A1, c. 600-400 B.*C. *Marked by finger-tip ornament, particularly on high-shouldered urns of situla type; and by red-coated ('haematite') bowls, at first rilled decoration and later with cordons*. *All these types abound at All Canning Cross, but, save for a single sherd of a cordoned bowl, they are notably absent at Maiden Castle*" (*ibid.*: 274). Additionally, Wheeler modified the contents of "*Iron Age B*" and "*Iron Age C*", especially those in central-southern and south-western regions (*ibid.*: 274-5). Although "*Iron Age B*" had tended to be characterised by highly decorated ceramics ("*Glastonbury wares*"), he believed that it was mainly composed of "*bead-rim*" and "*countersunk handle*" vessels, given the ceramic assemblages from regional Iron Age sites including Maiden Castle (*ibid.*: 274). In terms of "*Iron Age C*", it was considered that the culture was not clearly introduced to Maiden Castle until the Roman conquest. It was also believed that the advent of the "*C*" culture was characterised by "*a hesitant introduction of normal Belgic wares*" and "*the reproduction of modified 'B' types with the aid of the potter's wheel*". Wheeler's ceramic study suggested the importance of detailed regional studies of pottery, stressing the complexities of ceramic assemblages.

Subsequently, Wheeler (1943) produced a new chronological scheme of vessels from Maiden Castle in the formal excavation report and presented a number of ceramic illustrations. Absolute dates adopted in the above previous frameworks were modified: for instance, "*Iron Age A*", previously defined as *c.* 600 B.C. to the early first century B.C., was revised to *c.* 300 B.C. to the first half of the first century B.C. This great revision of chronologies suggests that there were difficulties in dating of ceramics due to a lack of useful materials for cross-dating. In terms of typological classifications of pottery, four main groups were presented for "*Iron Age A*": 1) "*pottery with finger-tip decoration*"; 2) "*haematite-coated bowls*"; 3) "*other bowl*s" and 4) "*situlate and other jars*". This classification represents definite characteristics of the individual groups, but there are features which need further examination. For example, though the main distinctions of "*pottery with finger-tip*" and "*haematite-coated bowl*s" are based on surface treatments, each classified group includes clearly different shapes and sizes (*ibid.*: 195; see Figure 4.1). These factors also should also be examined for the appropriate grouping of the ceramics alongside the surface treatments. Given the 200 year span of "*Iron Age A*", sub-division of the vessels appears to be highly possible.

Around the middle of the 20th century, a number of ceramic schemes were developed in light of the increase of ceramic materials through excavation. Hawkes's *ABC* system (1959; see Figure 3.3) and Hodson's scheme (1960, 1964; see Figure 3.4) are major examples which were discussed in the last chapter. However, these studies tended to be based on broad viewpoints with inadequate practical analysis of material data due to their focus on the continent's influence on Britain.

The 1970s were a turning point in typological studies of Iron Age pottery. Dennis Harding (1974: 8) examined existing chronological schemes based on the invasion hypotheses through seven headings: 1) "*new physical type*"; 2) "*new language*"; 3) "*written record of the event*"; 4) "*new burial types*"; 5) "*new settlement types*"; 6) "*new artifact types*" and 7) "*continuity or otherwise in site-location and distributions*". In terms of pottery, Harding (*ibid.*: 12) argued against Hodson's attitude downplaying pottery in his chronological scheme, stressing its usefulness for considering chronologies and regionalities as follows:

> "*With this rejection of pottery the present writer is in profound disagreement. The hazards facing a treatment of Iron Age pottery are admitted: but its unavoidable merits are its quantity, and the fact that it is frequently the only class of material remains represented, whereby the chronology and cultural affinities of a site may be assessed. And as an aid to the construction of regional chronologies, we may anticipate that ultimately, with the improvement of laboratory dating-techniques, the very diversity of pottery will prove its strength by facilitating a greater degree of precision in local classification*".

In paying attention to the irregularity of typological changes in pottery, Harding (1974: 16) also suggested the importance of typological analysis: "*Typology in this aspect is purely a matter of observation and identification, and an essential preliminary to the preparation of distributions*". Accordingly, he addressed regional pottery groups and their correlation with their proper chronological frameworks established "*by constructing a relative sequence from stratified deposits; by means of associated artefacts whose dating is already established; by the use of close parallels from contexts where dating evidence is available*" (*ibid.*: 16). Subsequently, Harding (*ibid.*: 126-226) illustrated the characteristics of pottery groups in detail on the basis of five stages, using continental chronological terms: 1) "*the Late Bronze Age problem and the transition to Early Iron Age*"; 2) "*the Primary Iron Age*"; 3) "*the Early La Tène phase*"; 4) "*the Middle La Tène phase*" and 5) "*the Late La Tène phase*". However, his examinations dealt with broad areas incorporating various regions, his explanations were descriptive and complex and there were subsequent difficulties in understanding his scheme.

In the same year as Harding, Stanley Stanford (1974: 188-214) proposed a specific method for typological pottery classification in the excavation report of Croft Ambrey in Herefordshire. Stanford (*ibid.*: 193) adopted two main factors, rim forms and decoration patterns, as criteria for constructing typological sequences, producing many types. In terms of rim forms, 11 types were defined and were "*further subdivided by the external groove element of the decoration into those with no grooves (O), those with an upper groove only (U), those with a lower groove only (L), and those with two grooves enclosing the decoration (T)*" (*ibid.*: 193). For decoration patterns, 20 types, such as stamped motifs, incised motifs and linear-tooled designs, were identified and correlations between the two attributes were demonstrated (see Figure 4.2). Consequently, four rim forms of eleven, which represented 48% of the whole pottery assemblage, were regarded as useful for developing ceramic chronologies. The main changes in the rim forms were examined on stratigraphic information and radiocarbon data: "*Forms A-D are clearly related and show an increase in number with increasing simplicity in form from A, the club-shaped rim with external cordon and double internal grooving, to the plain rounded form of D*" (*ibid.*: 193). The identification of the changes allowed the site's chronological scheme of pottery to be produced (see Figure 4.3). Stanford's approach to ceramic typologies demonstrated effective variables for constructing chronological schemes which were based on detailed analysis of ceramic data. This approach is important for practical examinations of pottery from individual sites, which would be effective for the establishment of broader regional pottery frameworks. However, there are some issues with this approach. It is uncertain how other ceramics without the presented rim forms and decoration patterns are included within his scheme and how differences in body shape and pottery size are accounted for in his typological classifications.

4.4 Typological studies of Iron Age pottery in Britain after the 1970s

In 1974, Barry Cunliffe (1974) produced sophisticated classifications and chronological frameworks of Iron Age pottery, based on both broad and detailed viewpoints. His scheme has been adopted in many studies because it compensated for the shortcomings of the above studies in addition to further developing the field, as will be seen. Firstly, Cunliffe defined his approach to ceramic classifications as follows (*ibid.*: 31):

> "*The framework given below relies very largely upon the characterisation of pottery styles and the definition of the areas in which the types constituting the style were commonly in use. The style-zone, resulting from such a definition represent little more than areas of contact … The actual definition of a style-zone must necessarily be based on a detailed assessment of stylistic traits. … Wherever possible, the style-zones have been named after two of the classic site where the types are found*".

Cunliffe thus presented many regional "*style-zones*" in chronological order alongside their ceramic illustrations and distribution maps (see Figure 4.4).

However, there is confusion in the terminologies adopted in his scheme. Despite the definition of "*style-zones*", the term was not used when explaining ceramic chronologies and regionalities. For example, in the section on "*Regional Grouping: South and East*" which constituted 35 sub-headings, different terms such as "*culture*", "*group*" and "*style*" were adopted without specific definition. This causes difficulties in understanding relations between "*style-zones*" and the other terms. Furthermore, Cunliffe's framework inadequately considers typological changes in pottery and the relationships between regions. In other words, each ceramic group in each period appears to be isolated from each other. This can also be applied to many other studies. It is important to examine such chronological and regional aspects in typological studies of pottery as they can lead to the development of other themes and a deeper understanding of social dynamism, as seen in Chapter 3.

In addition to these issues, John Collis (1977) critiqued Cunliffe's "*style-zone*" saying "*his approach to the pottery is essentially cultural*", and "*a classic 'historical' model allots to these 'style-zones' a tribal significance*" (*ibid.*: 29). Collis emphasized these problems, stressing "*'Durotrigian' pottery also appears in the territory of the Dumnonii, while the areas assigned to the Atrebates are based on theories on the tribal recoginisation in the Roman province after 43 A.D.*" (*ibid.*: 29). Collis also implied that the "*style-zone*" concept did not consider "*economy*" and "*trade*", as demonstrated by David Peacock (1968, 1969) with the existence of commercial production centres for vessels in south-western Britain in his pioneering petrological studies (*ibid.*). However, Cunliffe (1974: 29) included these aspects in his book as "*an unhappy compromise*". Collis also indicated that there was no specific definition and criteria on Cunliffe's "*style-zones*" or pottery groups, suggesting that they were significantly subjective: "*it is again a case of prejudging the material in precisely the same way as Hawkes did with his ABC system*" (*ibid*: 29). Finally, Collis explained the importance of examining "*'lower order' entities*" of pottery groups by "*regional archaeologists familiar with their local material'*, rather than purely concentrating on "*'higher order' entities*" (*ibid*.: 29-30).

Cunliffe (1984b) further developed typological studies of Iron Age pottery based on the large amount of materials available from the Danebury excavations in Hampshire though he does not seem to have specifically responded to Collis's criticism. Based on this site's typology he produced a detailed chronological framework which has since been adopted in a number of related studies as a standard chronological scheme, especially in central-southern Britain (*e.g.* Morris 1994, Hill 1995a). Many excavation reports of Iron Age sites in the region have also used the scheme without critical re-examination. For example, the report of Meare Village East in Somerset explicitly adopted the same structure and concept of ceramic classifications as the Danebury system: "*The analysis of the pottery has been based on the approach adopted in the Danbury report (Cunliffe 1984)*" (Rouillard 1987: 184), although the report's criteria for "*forms*" are more specific than Danebury's. The latest report of Maiden Castle also followed the Danebury scheme (1991a: 187):

> "*The vessel forms were classified according to a modified version of the hierarchical scheme employed at Danebury and Hengistbury Head (Cunliffe 1984a, 231; 1987, 206), since there is a considerable degree of overlap between the three assemblages. … Four levels of classification are available for each sherd: basic class (ie. jar, bowl, dish, etc), type, form and variety*".

These circumstances can be seen in many studies. However, the scheme appears to have a number of controversial issues and affect these studies. This will be examined in detail in the next section.

The typological classifications of pottery from Iron Age cemeteries in East Yorkshire use brooches and pottery to provide clues for dating. In the site report, attributes for ceramic classifications were first divided into three categories: "*Body*", "*Rim*" and "*Base shape*" (Rigby 1991: 100; see Table 4.1). They were next sub-divided, based on relations between two groups of fabrics and types of the shapes. Finally, correlations between rim and brooch types were presented (Figures 4.5, 4.6), revealing that the dates of ceramics from the site range from the late fourth to the early first century BC (*ibid.*: 102). Additionally, the site report examined manufacturing techniques as well as sizes and capacities of pottery for exploring other factors for typological ceramic classifications. This study provided a number of useful viewpoints for typological classifications, however, it is uncertain if its methods are effective for ceramics from other sites, especially settlements. This is because the circumstances of the site are relatively exceptional, as burials had maintained their primary conditions and as they contained ceramics and brooches from which specific dates are available, unlike many other sites.

The 1970s saw the development of notable and important typological studies into Iron Age pottery, including Cunliffe's studies. However, this period overlaps with developments in radiocarbon dating and studies of other themes, as discussed in the previous chapters. Based on these situations, it appears that typological studies began to lose their prominence. Many studies tended to adopt Cunliffe's methods and schemes despite a number of issues which requires re-consideration of existing typological classifications of Iron Age pottery.

4.5 Examinations of the Danebury scheme and its influence on other studies

4.5.1 Examination of the Danebury classification system

Cunliffe (1984b: 232) defined problems on methods of typological classifications of "*hand-made*" pottery, these involved: 1) highly sophisticated frameworks can lead to rigidity in pottery classification; 2) over-strict measurement criteria for pottery classification, such as "*diameter/height ratios*", "*diameter measurements*" and "*rim angle*", can cause establishments of improper schemes and 3) the risk of over-reliance on rim sherds for identifications of specific types. However, these appear to be merely a matter of degree and all the factors, sophisticated frameworks, measurement criteria and rim sherds, are essential for typological studies of Iron Age pottery. Additionally, given pottery making concepts such as the "*mental template*" (Deetz 1967) and "*chaîne opèratoire (chain operation)*" (Schlanger 2005), it is possible that different types of hand-made pottery can be identified by differences in measurements derived from socially mediated manufacturing norms. Furthermore, rim shapes are closely correlated with the tops and lids of pottery vessels. Given these factors, it can be inferred that rims were carefully moulded on individual principles of pottery making, which suggests that rim shapes are important for classifications of pottery.

Following this, a hierarchical structure for ceramic classification composed of four layers was presented, from the highest to the lowest these are: "*Basic class*", "*Type*", "*Form*" and "*Variety*" (Cunliffe 1984b: 232). "*Basic class*" has four groupings, "*Jars*", "*Bowls*", "*Dishes*", "*Saucepan pots*". Based on this structure, typological classifications of pottery from Danebury were addressed in the following process (*ibid.*: 232):

"*Within each of the basic classes a series of types has been defined. Jars, for example, are divided into four, and the dishes and saucepan pots, are each divided into two. The types are further subdivided into forms. In the case of type JB, a shouldered 'situlate' vessel, four forms have been defined: JB1.0, JB2.0 etc. These are further subdivided into varieties designated by a number following the decimal point: thus JB1.1, JB1.2 etc*".

According to this method, Danebury's ceramic scheme was produced in "*Appendix 1: the ceramic forms described and illustrated*" (*ibid.*: 259-331). This scheme greatly improved upon existing frameworks as it was based on adequate amounts of ceramics and their detailed analysis. However, the scheme reveals crucial issues with both its methods and analyses.

Firstly, the criteria for distinctions between the four levels of classification are uncertain. Although it adopted several factors, such as measurements, profiles, rims' characteristics and surfaces for classifying ceramic assemblages, the contents of these factors sometimes overlap with each other. There are also a number of contradictions between the definitions of individual categories and the ceramic illustrations. Considering the influence of the Danebury scheme, as discussed below, it seems to be important to explore these issues, hence, the ceramic classifications based on the four-tier structure will next be reviewed in detail. Tables 4.2 to 4.10 show the classification process of pottery in the Danebury report, exemplifying "*JB types*" (also see Figures 4.7 to 4.11).

The "*Basic class*" (Cunliffe 1984b: 232; see Table 4.2) is based on both measurements and profiles though the former seems to be more important than the latter as the measurements reveal clear differences between the four "*basic classes*". However, a majority of ceramic illustrations are not perfect profiles which allow the measurement criteria including heights to be examined. Furthermore, 63.2 % (24 out of 38) of ceramic illustrations in perfect profile do not correspond to the measurement criteria. This is a serious problem with the typological classifications practiced in the report as many inconsistencies in the classifications for the "*basic classes*" also can affect three other lower levels of ceramic structures. As noted above, the lower levels are defined, based on the "*basic classes*".

"*Jars*" are divided into five "*types*" (*ibid.*: 259; see Tables 4.3 to 4.5) defined by profiles, measurements, bodies and rims. Their profiles are separated into "*bipartite (JA, JC)*" and "*tripartite (JB, JD)*". However, it appears that the bipartite category also includes possible tripartite shapes, such as No. 571 ("*JC1.1*"), Nos. 413, 458, 462, 701 ("*JC2.1*") and most of the "*JC3*" vessels (Figures 4.8 to 4.10). This occurs vice versa, with Nos. 397, 400, 401 ("*JB4*") (see Figure 4.8). Measurements and bodies are unlikely to be specific criteria for identifying "*types*" as their definitions are relatively uncertain, unlike those of rims (see Tables 4.3 to 4.5).

With "*form*", "*JB*" vessels are separated into four forms, based on a number of characteristics including profiles, sizes, rims, rim tops and surface treatments (*ibid.*: 261; see Tables 4.6 to 4.9). For sizes, the report refers to two of four "*forms*", both of which are "*large*". This size classification appears to be vague and subjective. In terms of profiles, it seems that differences between the four "*forms*" in both explanations and ceramic illustrations are also unclear (see Figures 4.7, 4.8; Table 4.6). Additionally, the "*JB4*" vessels are likely to be very similar to some ceramics of "*JC1*" and "*JC2*" (see Figures 4.8, 4.9) although they should be distinguished from each other according to their definitions. Meanwhile, rim top criteria and surface treatments could be useful for ceramic classifications as their features are recongnisable (see Tables 4.9, 4.10), although those of rims are uncertain (see Table 4.7).

The “*varieties*” of “*JB2*” consist of four groups based on profiles and sizes (*ibid.*: 261; Table 4.10), however, there is a problem with the classifications. The definition of “*JB2.1*”, ‘*height equal to or less than maximum diameter*’, is inconsistent with that of “*Jars*” which has already been defined above in “*basic classes*” as a ceramic where “*the height usually exceeds the maximum diameter*” (*ibid.*: 259).

Thus, the Danebuy classification system had a number of problems with its methods and practices of typological classifications, though it was more elaborate than existing typological studies of Iron Age pottery. These problems appear to have caused issues on diverse related ceramic studies, especially those in central-southern Britain. The next section will examine how Danebury’s classification has affected them on a practical level, focusing on the case studies’ sites and other sites of central-southern Britain.

4.5.2 Examination of ceramic studies based on the Danebury scheme

4.5.2.1 Hengistbury Head (Dorset)

The Hengistbury Head report produced a vast amount of Iron Age vessels compared to other sites. In terms of ceramic typological classification, the report adopted the Danebury system (Brown1987a: 207-66):

> “*The classification of the form, described below (pp 208-13) is simply an extension of the Danebury scheme*” (*ibid.*: 207). [and] “*The scheme employed for the classification of vessel type was created in parallel with the classification of the Danebury assemblage*” (*ibid.*: 208).

The Danebury scheme's use appears to be related to the report's main editor, Cunliffe (1984b), who established the ceramic chronological scheme. Thus, the same problems in the four-tier hierarchy which occurred in the Danebury scheme are likely to have remained in the Hengistbury Head report. The correlations between definitions of ceramic categories and illustrated ceramic drawings will be next examined, and these confirm the problems with the scheme. Other problems concerning typological classification will also be identified.

Firstly, in terms of the actual circumstance of the *Basic classes* at the top level of the hierarchical structure, many vessels do not correspond to the criteria adopted in the report. For example, 75% (12 ceramics) of *Jar* illustrations in perfect profile whose number is 16, and 80% (12 ceramics) of those of *Bowl* whose number is 15. However, *Bowls* were defined as potentially having "*rim diameters may be in excess of maximum body diameters*" (Cunliffe 1984b: 232). Hence, the meaning of the percentage of complete vessels is changeable depending on how the words '*may be*' are interpreted. A majority of *Bowl* rim diameters are shorter than their maximum diameters, clearly, there is a critical problem with the relation between definitions of most *Basic classes* and ceramic illustrations.

Secondly, for *Type, Form and Variety* of the other lower levels in the hierarchical structure, BD4 is used as an example to examine a real situation between categories and their definitions. BD4 was defined in the Danebury report as follows (Cunliffe 1984b: 293): "*Bowls with well-defined shoulder and upstanding or flaring rim. The rim tops may be beaded. Wheel-made*". BD4.0 was complementarily explained in the Hengistbury Head report as follows (Brown 1987a: 212): "*This group includes a wide variety of small necked bowls with certain minor distinctions which distinguish them from one another. It includes imports and local wares*". These definitions can be applied to selected ceramic illustrations of BD4 (*ibid.*: 254-7), however, they are also applicable to other *Forms*, such as the vessels of BC3.6 (see Figure 4.12). It is natural that this can happen, because of the inconsistency in the typological classification method.

BD4.1 and BD4.2 are certain *varieties* of BD4 which were defined as follows (*ibid.*: 212):

> "*BD4.1 Necked bowls characterized by an internal groove on the rim, possibly a lid seating. (BD4.11 Simple, undifferentiated profile. BD4.12 Cordon present on neck or shoulder. Often graphite coated.)*
>
> *BD4.2 Simple bowls with upstanding, necked rims or with slack profile and slightly everted rim. Usually undecorated, but some examples have a cordon near the vase or are graphite coated*".

BD4.1 was established on the "*necked*" morphological appearance and on one specific attribute of "*an internal groove on the rim*". Meanwhile, BD4.2 was classified on a vague characteristic of "*simple*" and on mixed morphological factors on the rim and profile. Comparisons between these varieties show that the most significant difference is whether vessels possess "*internal grooves on the rims*", the other attributes appear to be broadly similar to each other. However, there is no explanation about why the attribute of "*an internal groove on the rim*" is more important than other attributes and classification like cordons, graphite coating and necked rims. If other such attributes were adopted as useful criteria, the definitions of *Varieties*, for example, could be different from those presented. In this case, the classified vessels would also be different from those illustrated. If these situations arise, ceramic chronologies could be also changed, causing serious problems to various studies which rely on the chronologies.

Finally, the actual categorisation of vessels is considered. Although categorisation should follow stated definitions of ceramic typological classification, a crucial problem with the method of categorisation is identifiable. Figure 4.13 shows four vessels regarded as *Bowls* in the excavation report which immediately reveal problems: can they be typologically separated or should they be grouped together? As will be seen in Chapter 5, there seem to be problems with the categorisation.

Additionally, there is a further problem with the application of the Danebury classification method to vessels from Hengistbury Head. The scheme appears to have been wrongly applied in certain areas of classification. As a specific example, the identification of JC3.1, which is one of the *Varieties* in both reports, is relevant. It was defined in the Danebury report, accompanying 11 examples which must have been appropriate for the definition, as follows (*ibid.*: 261, see Figure 4.14):

> *"Form JC3 High-shouldered jars with short upstanding or beaded rims. The range of shape is similar to JC2 but the JC3 forms are wheel-made or wheel-finished in a hard sandy fabric. Two varieties have been recognized here to distinguish between the deeper jars with beaded rims (JC3.1)*."

Meanwhile, in the Hengistbury Head report, this *Variety* was explained with diverse types of ceramic illustrations (Brown 1987a: 218-21) as follows (*ibid.*: 208, see Figure 5.15):

> *"JC3.1 This variety has even, curved shoulders, flat plain bases which are often perforated before firing, and are frequently decorated. May have countersunk lug."*

Notably, the description of shoulder shape is changed from "*high-shouldered*" to "*curved*" in the Hengistbury Head report with certain attributes added. This modification of shoulder shape brings confusion to existing classification and also can cause problems with categorising vessels from other sites. In fact, illustrated vessels from Hengistbury Head contain various types of shoulder curves unlike those from Danebury which are mostly composed of high-shouldered vessels. Furthermore, JC3.1 vessels of Danebury are broadly equivalent in both shape and lack of decoration. Those of Hengistbury Head include various different factors such as decoration and lugs. Thus, these modifications of definition led to the contents of the classified ceramic groups becoming fluid and indefinite. In summation, it can be thought that these problems arose from the Danebury classification with problems, or from the unreasonable application of the Danebury system to vessels from Hengistbury Head.

4.5.2.2 Iron Age sites in the Danebury area (Danebury Environs reports 2000)

The Suddern Farm excavation report presented a number of Iron Age vessels with an explanation of their ceramic chronology which showed stratified assemblages (Brown 2000b: 65-113). However, in terms of ceramic typological classification, vessels from the site were examined alongside those from other Iron Age sites in the surrounding area as part of the regional scheme in the introductory volume of the *Danebury Environs Programme* (Brown 2000a: 79-127). The report stated that "*Detailed descriptions of vessel forms and fabrics are provided in the integrated type series (Vol. 1, 81-91)*" (*ibid.*: 65). The introductory volume (vol. 1) mentioned ceramic typological classification for the *Danebury Environs Programme* as follows (Brown 2000a: 85):

> "*The vessel form typology devised in the early stages of the recording of the Danebury assemblage was described in detail in Volume 2 of the 1984 publication (Cunliffe 1984, 259-307) and additions to the series presented in Volume 5 (Cunliffe and Poole 1991, 288-300). The type series has proved to be relatively sound and sufficiently flexible to accommodate new types as excavations within the Danebury environs have proceeded. The major change to the series consists of the addition of new types.*"

The method used at Suddern Farm for ceramic typological classification basically followed the 1984 Danebury scheme. However, absolute dates of *ceramic phases* and depositional re-assessments of certain ceramic types were modified in the *Danebury Environs* report (*ibid*: 85), following revisions in the Danebury's volume 6 report (Cunliffe 1995). As with the case of Hengistbury Head, the adoption of the Danebury scheme is likely to be caused by the role of Cunliffe, the creator of Danebury's scheme (Cunliffe 1984b) as one of the main editors of the *Danebury Environs* reports. The pottery section of both the Hengistbury Head report and Suddern Farm was Lisa Brown, thus the problems with Danebury's four-tier hierarchy appear to have been brought in a series of the *Danebury Environs* reports. Given these circumstances, the correlations between definitions of ceramic *Varieties* and illustrations in the *Danebury Environs* introductory volume need to be examined.

First, in terms of *Basic classes* of the highest level in the four-tier hierarchy, there are inconsistencies between definitions and ceramic illustrations. For example, 29 ceramics (77%) of 41 *Jar* illustrations in perfect profile (Brown 2000a: 92-106) do not match the criteria defined in the Danebury report in 1984 (see Table 4.2). In addition, the illustrations of *Saucepan Pot Varieties*, such as PA1.1 and PA2.1, correspond to the definition of *Jars* much more appropriately than those of certain *Jar varieties*, such as JC2.1 and JC2.2, Figure 4.16 demonstrates examples of this contradiction. The maximum diameters of both *Jar Varieties* (DA 1111, SF 28) are clearly longer than their heights. This is, according to the Danebury classification, definitions for the group *Bowls* and *Dishes*. Similarly, the measurements of examples of *Saucepan Pot Varieties* are applicable to the definition of *Jars*, although the figures of maximum diameter and height of DA 687 are similar to each other. Furthermore, in terms of profile attributes like bipartite, tripartite and vertical, the report's categorisation of vessels into *Jars* or *Saucepan Pots* is questionable due to their uncertainty. In short, there is a crucial problem with the relation between the definitions of the most important *Basic classes* in the four-tier hierarchy and ceramic illustrations.

Secondly, the example of BD4 is selected in order to examine the actual circumstance between categories and definitions of the lower levels in the hierarchy: *Type* and *Form*. BD4 is compared with those presented in the Danebury and Hengistbury Head reports, the definitions of BD4 in each report are as follows:

> *Danebury (Cunliffe 1984b: 293) "Bowls with well-defined shoulder and upstanding or flaring rim. The rim tops may be beaded. Wheel-made."*
>
> *Hengistbury Head (Brown 1987: 212) "This group includes a wide variety of small necked bowls with certain minor distinctions which distinguish them one from another. It includes imports and local wares."*
>
> *Danebury Environs (Brown 2000a: 89) "This category includes a wide variety of small necked bowls with certain minor distinctions which distinguish them one from another. It includes imports and local wares."*

The definition of BD4 in the *Danebury Environs* report is almost the same as in the Hengistbury Head report, this is unsurprising given Brown's involvement in both reports. These definitions roughly match with selected ceramic illustrations of BD4 (*cf.* Brown 2000a: 111), however, they are also applicable to vessels of other *Types* such as those of BD2. Although the BD2 vessels must have "*cordons at the junctions of the necks and shoulders*", as an important attribute in the criteria, a number of the BD2 vessels lack this aspect of the definition. For instance, SF303, SF306 and SF213 can be categorised into the BD4 assemblage because they have no clear cordons at the junctions but "*minor distinctions*", one of BD4's attributes (see Figure 4.17). In fact, there are BD4 vessels the same shape as BD2, which suggests that there is no specific practical difference between the two groups. This confusing ambiguity in the division between different *Forms* implies that the typological classification method was not based on useful and distinguishable attributes. It also infers problems with the categorization of vessels into defined *Forms*. As the above examples have shown, the classification seems to be both subjective and inconsistent.

Thirdly, the example of BD4.1 and BD4.2 is selected for examination of the actual situation between categories and definitions of the lowest level (*Variety*) in the hierarchy. Their definitions are similar to those of Hengistbury Head (*ibid.*: 89), hence, the same problems remain in the *Danebury Environs* report. The difference between the *Varieties* is whether vessels possess "*internal grooves on the rims*". However, it is uncertain why the attribute separates the vessels into the two different *Varieties*. If other attributes, such as cordons, graphite coats and necked rims, were regarded as useful for the classification, the classified vessels would be different from those illustrated in the report. This is highly possible because such attributes are as distinctive as the criterion of "*internal grooves on the rims*" for typological classification. Therefore, the classification between BD4.1 and

BD4.2 is likely to be fragile and this can affect ceramic chronologies and could cause serious issues for related chronological studies.

Finally, the circumstances of Suddern Farm vessel categorisation are examined. The categorisation should follow the definitions of their typological classification produced by Brown (2000a), five particular vessels classified as *Bowls* have been taken from the Suddern Farm report and used in this examination (see Figure 4.18). However, there are clear differences between individual vessels in terms of body shape, depth, rim shape and neck shape and in the occurrence of surface decoration. In other words, it is feasible for the vessels to be typologically classified as different-types of vessels, but the report sorts them into the same group (BC3.3) (Brown 2000b: 105-6). BC3.3 is defined as follows (Brown 2000a: 89): *"Bowls with straight or gently curving profile and a proto-beaded or beaded rim. BC3.3 is characterized by its rounded profile and flat base*". According to this definition, BC3.3 ceramic bodies can be applied to a variety of different shapes. In fact, the selected vessels assume clearly different shapes from each other (see Figure 4.18). The features of rim and base shapes are specifically defined in the report, however, the rim feature is no more than one of a number of major attributes applicable to many other types. This means that the characteristics of rim shapes may not be effective for dividing the BC3 vessels into *Varieties*. Profiles and rim shapes should be useful for ceramic classification in combination with other specific attributes. Unfortunately, base characteristics are readily unavailable from the excavation reports. Thus, there are problems with the BC3 definition as it appears not to be based on useful attributes for ceramic typological classification, surely attributes should be properly distinguishable in comparison between vessels.

Furthermore, there are problems with the application of the Danebury classification method to vessels from sites surrounding Danebury. These issues can be seen in JC3.1 vessels from Suddern Farm. The Danebury report defines JC3 as follows:

> "*High-shouldered jars with short upstanding or beaded rims. The range of shape is similar to JC2 but the JC3 forms are wheel-made or wheel-finished in a hard sandy fabric. Two varieties have been recognized here to distinguish between the deeper jars with beaded rims (JC3.1)*" (Cunliffe 1984b: 261).

Meanwhile, in the *Danebury Environs* report, *Form* and *Variety* are explained as follows (Brown 2000a: 87):

> "*Jars with a high shoulder and short upstanding or beaded rim. The range of shape is similar to JC2 but the shoulder of JC2 is more pronounced and these later forms are generally produced in fine, hard fabrics which are sometimes wheel-thrown or wheel-finished. JC3.1 is a tall, deep jar with a beaded rim*".

The definition of JC3.1 in the *Danebury Environs* report follows its own definition more precisely than Hengistbury Head's equivalent. However, various ceramic types appear to be illustrated in the assemblage of BC3.1 of the *Danebury Environs* report (Cunliffe 2000: 100). JC3.1 vessels presented in the Danebury report (Cunliffe 1984b: 278) are mostly composed of "*jars with a high shoulder and short upstanding or beaded rim*" without decoration, such as DA602 and HD189 in Figure 4.19. Conversely, different types were added in the *Danebury Environs* report, despite the sepecific definition (see Figure 4.19). For example, the vessels, such as loosely curved jars (WO147, SF309), jars with decoration (SF223, SF309) and a low and shallow jar (SF569), are apparently inapplicable to the definition. This situation shows that the Danebury classification method was conveniently, or erroneously, applied to ceramic typological classification of the *Danebury*

Environs Programme's sites. Such application could lead to undermining the Danebury scheme. The BC3.1 example suggests that the Danebury scheme, which has been used as a standard framework in central-southern Britain, is highly unlikely to be applicable to vessels found from other sites.

4.5.2.3 Other sites in central-southern Britain

In addition to the ceramic studies of Hengistbury Head, Suddern Farm and the *Danebury Environs Programme* sites, there are many other studies which appear to have used the Danebury scheme without re-examination. The Salisbury Plain Project produced a large number of Iron Age vessels analysed by Frances Raymond (2006). The method of ceramic typological classification adopted in this report was based on Danebury's scheme (*ibid.*: 93): "*Wherever possible the identifiable forms have been keyed into the up-dated type series revised during the Danebury Environs Project (Brown 2000a)*". Despite the practical and methodological problems of the Danebury scheme, it was applied without re-analysis. The project covered a broad area of Salisbury Plain with Iron Age sites. Hence, the report's ceramic study is likely to have had a serious influence on the evaluation of many sites.

The excavation report of Weston Down Cottages in Hampshire also used the Danebury scheme (Gibson and Knight 2007). The introduction to the Iron Age section mentioned the ceramic classification and chronologies (*ibid.*: 6):

> "*As a result of the considerable body of work undertaken on pottery assemblages across Hampshire (Cunliffe 1984, 244-8; Brown 1995a; Morris 1995a), it has*

> *become possible to refine the phasing on Middle Iron Age assemblages, on the basis of form and fabric*".

Given this statement, the report clearly regarded the Danebury scheme as valuable. In fact, the report's detailed classification of ceramic assemblage took place in reference to the scheme. Alphabets and numbers used for ceramic classification in the report also appear to have been based on those of the Danebury scheme, the table's footnote mentioning "*vessel forms according to Cunliffe 1984*" (*ibid.*: 8). Following classification, it is stated that "*using this chronological framework, it has been possible to assign some of the MIA features at Weston Down either to MIA1 (6th-4th century BC) or MIA2 (4th-2nd century BC)*" (*ibid.*: 7). In other words, the ceramic classification and chronology of this site are a typical example of a direct application, including problems, of the Danebury scheme to vessels found from another site. In the same way as The Salisbury Plain Project above, it is highly problematic that the report conformed to the Danebury scheme without re-examination, especially since the scheme had been produced more than twenty years previous. A huge amount of vessels must have been found through many excavations during the time which requires continuous re-examination of existing schemes if they are to be applied to new assemblages.

The ceramic classification method adopted in the excavation report of Balksbury Camp in Hampshire is also vague:

> "*As prehistoric vessels are lacking in uniformity, a fairly general approach to form definition, avoiding over fine distinctions, has been taken. The material has been classified primarily according to general profile shape (curving, straight, necked, etc) and orientation (out-turned, upright, etc). The distinction between some*

> *vessel classes, such as jars and bowls and jars and saucepans, has therefore been blurred, a situation which accurately reflects the character of the material itself*' (Rees 1995: 62).

The report presented 94 *Forms* based on ceramic typological classification. Each *Form* was explained with terms such as *bowl*, *jar*, *dish*, *vessel* and *urn* which appear to represent ceramic shape. However, the terms were not defined on specific criteria, hence, it is very difficult to re-examine the typological classification. It is problematic that categorisation without specific criteria has been the norm for British Iron Age pottery studies (Marshall 1989; Morris 1988; Every and Mepham 2008 *etc.*).

One of the main causes of this lack of criteria is that the study of typological classification and re-examinations of existing schemes have been unpopular. This could be connected to the time-consuming nature of re-examinations, and their perception as 'boring' and unimportant for Iron Age archaeologists. It is also likely that terms referring to ceramic shapes were influenced by viewpoints in current British cultures in the Iron Age research environment. However, a number of ceramic terms in ancient Greece have been defined based on the cultural viewpoints of Ancient Greeks and their potters. These were related to ceramic form and function (Clark *et al.* 2002: 2) and were identified through study of ancient Greek literature and paintings (Richter and Milne 1935: xiii). Another example can be found in an ethno-archaeological study of central India, which revealed correlations between functions and specific names for local pottery (Miller 1985: xi-xiv, 56). Although there was difficulty in identifying the relations between function, from and name (*ibid.*: 57), this difficulty appears to have been caused by the viewpoints of our present culture. It can be assumed that ceramic names rest on certain functions and meanings in the cultures of local villages and areas. This results in different names being assigned to individual types of pottery in the local cultural context.

Unfortunately, there are few specific records associated with Iron Age pottery, unlike the cases above. Therefore, in order to approach Iron Age ceramic culture, it is appropriate for vessels to be first classified using objective methods like statistical analysis. This creates objective criteria for classification, rather than subjective categorisation affected by current cultural viewpoints. In addition, the Balksbury Camp report (Rees 1995: 70) mentions that ceramic phases are "*more loosely based than the scheme proposed for Danebury (Cunliffe 1984a, 233-4)*", and that "*Danebury ceramic phases (ibid), are taken as the standard as they are the most detailed*". In fact, the Danebury phasing system was applied to the *Key Groups* of Balksbury Camp (Rees 1995: 72-9). This application of the Danebury scheme has the same problems as the other sites discussed above. One of the reasons for the adoption of the scheme, especially in Iron Age ceramic studies of central-southern Britain, seems to be that the Danebury scheme presented detailed classification. This can be seen in Rees' statement above. However, its detailed nature is not necessarily accurate, although it does give a seemingly reliable impression of thoroughness. This, once again, suggests the importance of re-examining existing classifications and chronologies.

Elsewhere, the excavation report of Old Down Farm in Hampshire used a similar approach to that of Balksbury Camp for ceramic typological classification (Davies 1981). Once more there are no definite criteria for typologically dividing vessels. Furthermore, the shape classification of vessels, such as jars and bowls, was again based on current cultural contexts. There is also serious difficulty in understanding the scheme presented in the report: for example, why were the saucepan pots B10 and B11 categorised in *Bowl Forms* (*ibid.*: 88). The method adopted in the report also appears to be too descriptive and disorganised to be accepted as an appropriate approach to ceramic typological classification.

Another classification method can be identified in the excavation report of Dibble's Farm in Somerset (Morris 1988). This approach relied on a mixing of the Danebury method with a descriptive method similar to that of Old Down Farm. The report's classification was explained as follows:

> "*Ten different jar forms (A series) and eight bowl forms (B series) were identified in the assemblage. A jar is defined as having a smaller rim diameter than vessel height, while the rim diameter of a bowl is greater than or equal to the vessel height*" (Morris 1988: 31).

The fundamental definitions for ceramic classification are similar to Danebury, with classifications based on differences and relations in the measurement of values such as heights and rim diameters. However, the report states that "*these definitions are only used as a general application since the majority of sherds do not represent complete vessel profiles*" (*ibid.*: 31). Consequently, it is important to devise an applicable classification method which considers the real circumstances of the material. Ceramic illustrations presented in the report include a number of small rim sherds, thus it is difficult to classify these as jars or bowls. This suggests that it is highly possible that many of the sherds were wrongly categorised. Further classifications relied on descriptive methods without organised criteria. For instance, there are 12 jar types, some of which were sub-divided into certain varieties in the classification scheme, such as A1a and A1b. However, there are no distinctive criteria for sub-division representing the differences between both numbers and lower case letters. Because of this situation, the ceramic scheme is likely to be uncertain and confusing. Given these problems, the report's classification method appears to be inappropriate for considering a ceramic chronology.

4.5.2.4 Summary

The above discussion has revealed many problems in existing typological classification schemes for Iron Age vessels in central-southern Britain, two main points should be re-examined and revised:

1) Most related studies have uncritically followed the highly problematic Danebury scheme produced in 1984;
2) Many ceramic studies of typological classification are descriptive and subjective, providing no clear criteria and based on unorganised structures.

Regarding the former, many problems have remained for over 20 years because few studies have identified the problems with the Danebury scheme. This is caused, in part, by the perception of the Danebury scheme as most detailed and appropriate for Iron Age vessels in central-southern Britain. John Collis repeatedly critiqued the Danebury scheme in many areas and provided his proposals as alternative methods (Collis 1977, 2008 *etc.*). However, as he tended to focus on theoretical aspects without using actual materials and consequently no specific ceramic studies have followed up his methodology. This section presented a number of convincing examples to demonstrate the serious problems with the Danebury scheme.

Regarding the latter, it appears that many individual ceramic classifications were empirically created, describing ceramic characteristics based on subjective details. This is not necessarily inappropriate as a method for ceramic classification as it is very difficult to classify vessels by objective, often statistical, methods. Vessels tend to assume huge varieties in typology, especially under domestic production, this seems to have been common in prehistoric societies where centralised production systems were unlikely. Given these circumstances, subjective viewpoints for ceramic classification are unavoidable. However, using only objective (statistical) methods causes significant complexity in understanding ceramic classification. Importantly, ceramic classification should be organised and systematic, based on clear criteria as far as possible. It must balance subjective and objective methods, taking account of the nature of materials. A number of irregular types of vessels would have been produced during the Iron Age. However, as mentioned above, most vessels are likely to have been made based on general principles like the "*mental template*" (Deetz 1967: 45) and "*chaîne opèratoire*" defined as "*series of operations involved in any transformation of matter (including our own body) by human beings*" (Lemonnier 1992). Therefore, it is likely that there were certain specific types of vessels which Iron Age potters envisaged, both consciously and unconsciously, in terms of their 'ceramic typological classification' when making pottery. However, as it is very hard for us to understand their intent through archaeological evidence, utilising statistical data will help to identify types through logical approaches. This is more appropriate than surely utilising subjective viewpoints influenced by present culture. Such approaches also allow the re-examination of existing schemes, and would be useful for developing and refining the quality of ceramic typological classification.

Ceramic typological study needs time-consuming analyses and re-assessments of the ceramics. The productivity of the field may be regarded as low, in terms of creating historical narratives and theories. Therefore, typological study is unlikely to be attractive for archaeologists studying Iron Age ceramics compared with other kinds of studies. This seems to have caused stagnation in Iron Age ceramic typological study. However, such study remains one of the most important methods for analysing archaeological evidence as most Iron Age studies are based on certain typological and chronological ceramic schemes. Changes in the ceramic schemes cascade to the interpretations, additionally, the number of archaeological materials including pottery continues to increase with ongoing excavations. Considering this, existing schemes should be constantly re-assessed in order to incorporate new materials. A recent Iron Age agenda (Haselgrove *et al.* 2001: 3) has noted the significance of re-examination of existing schemes. Nevertheless, it is likely that such issues have been largely ignored in Iron Age studies of central-southern Britain. This highlights the importance of continuous typological study, and its necessity for developing our understanding of broader Iron Age ceramic culture.

4.6 This study's approaches to typological classifications of pottery

4.6.1 *Yayoi* pottery studies in Japan and 'Style' concept

Before proposing my own alternative methodology for refining the typology of the ceramics from the Danebury environs, my review of the problems with existing typological studies indicates that some alternative approaches may be beneficial. One possible approach is to utilise methodologies from somewhat comparable sets of ceramic assemblages, where different approaches have proved successful, in particular Japan. The *Yayoi* period of late prehistoric Japan (*c.* 1,000/400BC–AD250) saw revolutionary new technologies such as bronze, iron and rice agriculture introduced from the Asian continent, and shared a number of similarities with the later first millennium BC in Britain. For example, long-distance exchange and defensive settlements like hillforts began to increase in these periods. These social circumstances possibly affected the natures of production and distribution of pottery. The concept used when studying the *Yayoi* period's ceramics is useful for both organising typological classifications and understanding ceramic assemblages. Such schemes have been rather overlooked in the study of prehistoric ceramics in Britain, yet provide an alternative way of approaching ceramics for studies of the European Iron Age.

Intensive studies of *Yayoi* pottery began with the introduction of the 'style' concept presented by Yukio Kobayashi (1930ab, 1933 *etc.*). He identified high correlations between forms and decoration patterns of the *Yayoi* pottery from the *Niizawa* site in *Nara* prefecture and grouped pottery based on their correlations as 'styles' called *Youshiki*（様式）in Japanese. Different 'styles' of the *Yayoi* pottery were also identified in other regions. The 'styles' which the analyses produced contributed to providing chronological schemes and regionalities of pottery. However, the final aim of such ceramic classification was to understand life styles, relations between social groups, and cultural dynamics in the *Yayoi* period (see Sudou 1986: 20). This 'style' concept has had a considerable influence on Japanese typological studies of various artefacts (see Yokoyama 1985: 54).

'Styles' consisted of two concepts: 'types' and 'forms' (see Table 4.11) which were based on the manufacturing techniques and the functions of pottery (Kobayashi 1938). The 'types', called *Keishiki*（型式）in Japanese, represent minimum units in pottery classifications. These can be identified by correlations between various attributes of pottery, such as features of raw materials, procedures and methods of forming, morphological features, and pre-firing and post-firing treatments. The establishment of ceramic 'types' is a fundamental classification of pottery and important for considering techniques and customs involved in pottery making by prehistoric communities.

Meanwhile, the ‘forms’, composed of the ‘types’, also pronounced in Japanese but written with a different Chinese character *Keishiki*（形式）, were based on definitions deriving from ceramics functions, such as cooking pots, storage jars and serving bowls. These classification groups finely divide ‘types’ into fewer categories, which is useful for structuring ‘types’ within ‘styles’ of pottery. The ceramic ‘forms’ are identified, principally based on differences in ceramic shapes which are believed to reflect functional properties. Therefore, in order to consider the ‘forms’, it is vital to analyse relations and ratios between rim diameters, neck diameters, maximum diameters and various heights of pottery. However, there appear to have been varieties of usage within the same ‘forms’ of pottery especially on special occasions like rituals and ceremonies. For example, in northern Kyushu of the *Yayoi* period, the same shaped ceramics used as pottery for daily use were often also used for burial urns and were also finely crafted for rituals with red and black coating material and polishing (*e.g.* Hashiguchi 1979; Mada 1982; Nakazono 1998; Takaki 2003). Issues on the use of pottery in such occasions should be examined on the basis of the above attributes and remaining conditions of pottery. However, in terms of the primary function of pottery, the identification of ‘forms’ based on ceramic shapes appears to be significant for ceramic classification.

The ‘style’ concept composed of three different categories is a clear and simple picture for considering ceramic assemblages. This concept is also applicable to both space and time, which can be useful for examining systems of production and distribution of pottery and their changes when related to cultures and societies, as mentioned above. These advantages appear to have promoted the adoption of the ‘style’ concept in a number of Japanese artefact studies, which is one of the main reasons of their developments. This situation is seen prominently in the *Yayoi* pottery studies (*e.g.* Sahara 1970; Morioka 1982; Shimizu 1986; Fukazawa 1986; Tsude 1989; Takesue 1991; Akatsuka 1992; Tasaki 1995;

Nishitani 1999, 2002; Fujio 2003; Nakazono 2004; Akiyama 2007). According to my assessment of existing ceramic schemes in central southern Britain in section 4.5, there does not seem to be a commonly used concept for understanding ceramic assemblages in British Iron Age pottery studies, unlike the above Japanese case. Although the Danebury scheme has a specific concept constructed of four layers such as "*Basic class*", "*Type*", "*Form*" and "*Variety*", there are problems with their definitions and applications to actual materials as discussed in section 4.5. In terms of the definitions, the differences between "*Type*", "*Form*" and "*Variety*" which composed of various kinds of criteria are uncertain. This can cause the difficulty in understanding structures of ceramic assemblages. Given these, a concept which allows for a more rigorously refined definition of ceramic assemblages would be potentially useful for the improvement of the British Iron Age pottery studies, and the introduction of the Japanese 'style' concept into the studies are proposed.

According to the 'style' concept, typological studies of *Yayoi* pottery have developed, based on broadly two main approaches. One approach is logical analysis of typological changes in pottery with its stratigraphic information. This approach is seen in the above Kobayashi's studies where rim shapes and decoration patterns were regarded as effective for considering chronologies of the pottery (Kobayashi 1930ab, 1933 *etc*.). In traditional seriation methods, ceramics can be arranged in chronological sequences, using such specific attributes. These methods often utilise materials from closed contexts useful for examining chronological relations between different 'types' and 'forms'.

Another approach is quantitative analysis by use of computer programmes, for example: the use of multivariate classification analysis which aims for objective classifications (*e.g.* Nakazono 1991; see Figures 4.20 to 4.22; Ounishi and Nakazono 1993). Nakazono (2004: 16-7) positively adopted multivariate classification analysis for typological classification of pottery, stressing the improvement of existing subjective approaches. He also emphasised three advantages of multivariate classification analysis (*ibid.*; 22-3). Firstly, the analysis dealing with multidimensional attributes can produce new viewpoints for typological classification of pottery which subjective approaches could overlook. Secondly, it is useful for presenting and communicating classification results to both national and international archaeologists. Thirdly, different analysis results of the same materials can represent differences in ideas and viewpoints on the materials of analysts. Although the multivariate classification analysis has these advantages, there have tended to be few notable differences in typological schemes of pottery between such quantitative analyses and the traditional methods. It is also noted that attributes selected for typological classification rely heavily on knowledge and experience of classifiers (Fujio 1993: 72). Furthermore, multivariate classification analysis which requires specific knowledge and technique of statistics could be avoided by many archaeologists familiar with the traditional methods.

Consequently, such statistical analysis has not become popular in *Yayoi* pottery studies. In other words, the traditional approaches to typological classification tend to be more common than the statistical analyses, at present. Constant typological examinations of pottery, by use of these approaches and scientific dating methods, continue to refine typological schemes of *Yayoi* pottery for many sites, local areas and regions (*e.g.* Okita 1987; see Figure 4.23; Takesue 1987; Terasawa and Morioka 1989, 1990; Takakura 1990; Tsunematsu 1991; Masaoka and Matsumoto 1992; Sugawara and Umeki 2000; Kanou and Ishiguro 2002; Fujio 2003; Kawamura 2003; Nakazono 2004; Kawabe 2009), this has led to developments in other related studies. Given the above situations, this study will principally adopt the traditional methods for ceramic typological classification. However, as Nakazono (2004) stressed, it is important to present data and information on analysis which allows re-examination of analytical procedure by other archaeologists. It is also necessary to produce specific classification criteria, using objective methods as appropriate for the same reason. Therefore, in cases of meaningful and possible classification, quantitative analysis will be utilised in this study which is an experiment if such new approaches are useful for classification of British Iron Age pottery.

4.6.2 Keynotes of typological analyses of pottery

It is important to consider whole processes of pottery manufacture for ceramic classifications as all attributes are produced at different stages in the process. Acquisitions of clay and essential materials, profile forming, surface treatments including decorations, drying, firing and finishing are all processes involved in the manufacture of pottery (*e.g.* Shepard 1956; Rice 1987; Arnold 1991). In order to produce appropriate classifications of Iron Age pottery, these various factors need to be examined, however, there are difficulties in addressing all aspects due to the nature and availability of information on ceramic materials. Given this, it appears to be valid to select specific factors for ceramic classifications. Similarly, factors which represent chronological and spatial differences more clearly than others should be explored. The visual elements of pottery like shape, size and decoration appear to be more effective for typological classification than fabrics, some surface treatments and colour, therefore, this study will focus on these three factors.

The analysis consists of three stages: 1) classifications of vessels; 2) examinations of their stratigraphic relations and 3) their absolute dates, using cross-dating with dated objects and scientific dating methods to establishments of chronological frameworks. The first stage is the most crucial and also most feasible in terms of the availability of materials. In addition to these, there appear to be problems with existing classifications, as discussed above. For these reasons, detailed analysis of the classifications will be conducted in the next chapter, using a large amount of vessels from Hengistbury Head. Other case studies will follow the methods explored through the analysis.

In terms of pottery data, ceramic illustrations from published sources will be used. These are the most readily available data for vessel records, which allows re-examinations of ceramic classifications. Ceramic illustrations are also useful for examining the above three factors like shape, size and decoration. Shape has a number of attributes, such as rims, shoulders, bottoms, and proportions between diameters of rims, necks, maximums and bases, thus it appears to be very useful for ceramic classifications in the three elements. The proportions in shape allow ceramic assemblages to be classified into ‘forms’ because they tend to reflect differences in their functions (*e.g.* Millett 1979; Henrickson and McDonald 1983). Size differences are effective for considering different functional types within individual ‘forms’. Differences in shapes of various ceramic parts contribute to identifying ‘types’ with those in decoration patterns. It is possible that the distinctions in these factors also represent their chronological differences, which should be considered in the second and third stages of relative and absolute datings.

4.7 Summary

The examinations of theoretical studies on ceramic classifications suggested the importance of identifying ‘types’ as fundamental units of pottery. Studies of ‘types’ have been dealt with as ‘typologies’ in different disciplines, however, the typological studies in archaeology included issues on chronological aspects unlike others. Though the studies of Iron Age pottery in Britain tended to focus on constructing chronological frameworks mainly in the first half of 20th century, those based on detailed analyses of ceramic classifications developed from the 1970s to the 1980s. These developments contributed to refinements of existing chronological schemes of pottery, but it seems that typological studies have become unfashionable since this period. The causes for this are related to more precise scientific methods of dating being introduced to Iron Age studies from the 1960s to the 1970s, and that the study interests started switching towards different themes. Additionally, elaborate schemes like Cunliffe's have been broadly accepted in Iron Age studies, especially in central-southern Britain. However, re-examinations of existing ceramic schemes and continuous typological studies are essential for appropriate developments of Iron Age studies.

In order to tackle these, a structure of ceramic assemblages was first considered, referring to studies of Japanese *Yayoi* pottery. The structure composed of three levels, 'styles', 'forms' and 'types', and it appears to be useful for organising typological classifications of pottery (see Table 4.11). In terms of factors for typological classifications, three attributes, shape, size and decoration, were selected because of their advantages. Analysis of the attributes will start with ceramic classifications, followed by examinations of stratigraphy and absolute dates. They will allow establishment of new chronological frameworks for Iron Age vessels in central-southern Britain and comparisons of ceramic assemblages between regional sites. The data on the vessels will be based on ceramic illustrations from published sources including excavation reports for the reasons mentioned above. The detailed procedures of typological classifications of pottery are presented in the next chapter.

Chapter 5

Two possible methods for typological classification of Iron Age pottery: a case study examining vessels from Hengistbury Head, Dorset

5.1 Introduction

Typological studies of Iron Age pottery in Britain have long been conducted based on a variety of approaches, as shown in the last chapter. However, most of these studies have tended to focus on understanding cultural contexts and on constructing chronological schemes from the later first half to the earlier second half of the 20th century. Although these studies were developed using detailed analyses from the 1970s to the 1980s, they have been unpopular in recent decades for several reasons, as noted above. This suggests that the re-examination of existing studies of ceramic typology have not been sufficiently carried out, which can cause serious problems to other Iron Age studies based on ceramic classification and chronology. The examination of existing methods of ceramic classification made in Chapter 4 revealed important issues: 1) subjective ceramic classification without clear criteria; 2) lack of viewpoints of difference in ceramic size; 3) inconsistency between definitions of ceramic categories and actual materials allocated, based on the definitions; 4) inapplicability of existing methods of ceramic classification to a large number of vessels which are not in perfect profile. Additionally, given the increase of ceramic data produced by recent excavations, there appears to be a need to address typological studies of Iron Age pottery.

This chapter comprises a case study which explores methods useful for typological classification of Iron Age pottery in central-southern Britain. The materials dealt with in the study are the vessels from Hengistbury Head in Dorset. The main reasons for using this site are that the large quantities of material allow for appropriate examination and that the site is an important one for considering the relationship between central-southern Britain and the continent, as mentioned in Chapter 3. Using the ceramics from this site, potential methods of ceramic classification are presented, considering the issues with existing approaches. Secondly, a practical classification analysis of vessels is conducted, followed by examination of the stratigraphic information for establishing a relative chronology of the vessels. Thirdly, a review of these methods is made for exploring appropriate approaches. Finally, classificatory and chronological schemes of vessels from the site are considered, using revised approaches.

5.2 Method 1: analyses of quantitative data of pottery

5.2.1 Procedure of the analyses

A recent study of functional analysis by Rachel Pope (2003) is interesting for considering typological classification of Iron Age pottery. She considered that vessel usage had a close relation to vessel forms, referring to ethnographic studies (*ibid.*: 2-3: *cf.* Henrickson and McDonald 1983). She regarded "*the relationship between the vessel's body and its orifice, or mouth*" (*ibid.*: 2) as important and classified a hypothetical assemblage into six forms, mainly utilising difference in size between orifice diameters and maximum diameters and between height and width (see Figure 5.1; Table 5.1). Pope presented a specific ceramic classification based on the relationship between ceramic shape and function which is similar in its approach to the Danebury method (Cunliffe 1984b). Her classification appears to be one of the appropriate approaches to ceramic classification, as it can be inferred that pottery shape basically reflects its function, as discussed in Chapter 4.

However, there are two issues with Pope's classification as well as other existing approaches. One is that there are no specific reasons why the presented elements can be the criteria useful for classifying vessels. It is uncertain how the criteria, such as "*orifice>base; height < 1/3 max. diameter*" and "*orifice=max. diameter; height>width*", were created and why there are no explanations of "*wall*" in some of her "*Forms*" (Pope 2003: 2). The validity of these criteria should be demonstrated, based on statistical data. Another is that her method cannot be used for upper parts of vessels as it adopted "*height*" as a criterion of the "*Form*" classification. Given the small number of perfect profiles of Iron Age pottery available from published sources, it is questionable if this approach is useful. In order to resolve these issues, it seems that a statistical analysis of the upper bodies of pottery is needed. These shapes are as important for considering ceramic function as containers as are perfect profiles. Additionally, upper bodies are likely to be much more readily available than perfect profiles, allowing for the examination of many vessels, as will be demonstrated below. Rim shapes are also significant as these could relate to ceramic functions, for example, ways of covering (lids) and how the contents of the vessels were accessed (pouring, etc.).

Hengistbury Head is a promontory located in the middle of the south coastline in England (Cunliffe 1987; see Figure 5.2). The early excavations revealed that it was occupied from the middle Iron Age to the Roman period based on the ceramic chronology. In addition to the local and regional vessels, the excavations produced a huge number of vessels from Armorican peninsula, such as "*black cordoned*" and "*graphite coated wares*" and "*Dressel 1 amphorae*" (Cunliffe and Brown 1987; see Figure. 5.2). 906 illustrations of Iron Age vessels are available from the excavation report, however, the number of these in a perfect profile from a rim to a base is only 34 representing 3.8% of the total. On the other hand, the upper parts of vessels, of which there are 718 illustrations, account for a large percentage (79.2%) of the ceramic assemblage. Therefore, an analysis of the upper parts is more appropriate than that of perfect profiles for considering a typological classification of vessels from this site. Such a marked contrast in number between upper bodies and perfect profile appears to be common in Iron Age pottery in central-southern Britain, as shall be seen in the next chapter.

The first stage of this analysis is to classify vessels into categories based on the ratio of neck diameter to maximum vessel diameter, which is fundamental to understanding vessel shape. In terms of Iron Age pottery in central-southern Britain (*e.g.* Cunliffe 1984b, 1991), it can be inferred that the low ratios represent 'jars' and the high ratios exhibit 'bowls'. However, vessels with wide-open rims and no necks, such as 'dishes' and 'saucepan pots', do not have these ratios. A number of upper bodies without middle body parts are included in the illustrations; in these cases maximum diameters are reconstructed from the illustrations where possible. Neck diameter and maximum diameter were measured with a ruler and the measured values are presented to a scale of one third (1/3) adopted in the excavation report. Each value is represented to the first decimal places, and the ratio of neck diameter to maximum diameter is rounded off to the first decimal place. This stage is followed by:

1) dividing vessels in each category into groups based on difference in size (= neck diameters);

2) separating vessels in each category into groupings based on shoulder shape and rim shape;
3) comparing the relationship between these established groups to produce a meaningful classification of the assemblage.

5.2.2 Categorisation of ceramic upper bodies

Figure 5.3 shows the ratios of neck diameter to maximum diameter of 718 ceramics. The X-axis stands for the number of measured ceramics and Y-axis represents these ratios. From this representation we can make three observations. Firstly, the ratios can be seen to lie between about 40 and 100 % on this graph. Secondly, the data can be divided into at least 11 categories (① to ⑪). The ratio graph represents the distribution of the ratio values which are arranged in order of the values. Hence, the identification of relative concentrations of the values leads to classifying their distribution. Although this classificatory approach may include a subjective division of different categories, the objective data used for classification allows re-examination of the above categorisation by others and therefore can be easily be reassessed if necessary. The borders between different groups can also be identified by the gaps in the sequence of the ratio values which are available from Tables 5.2, 5.3, and 5.27 to 5.29. Thirdly, from a broad viewpoint, these categories could be separated into two groups: categories ① to ⑨ and categories ⑩ and ⑪. The aim of this division is to facilitate the understanding of the structure of the ceramic assemblage, reducing the complexity of the above 11 categories. This classification is also based on the identification of relative concentrations of the ratio values, towards grouping the established categories into fewer groups. These categorising methods will be applied to the other case studies in the later chapters.

The ratios of the former group spread between 41.9 and 77 %, which suggests that it is composed of relatively narrow necks and large maximum diameter. The main advantage in these characteristics is that contents are less likely to spill, especially when those including liquid are transported. For example: the average ratio of neck diameters to maximum diameters of Dressel 1 *amphorae* is around 50 %. The number of ceramics in the former group（categories ① to ⑨）is 185 out of a total of 718, or 25.8 %.　The low proportion might be due to its main role as containers for transport.

The ratios of the latter group（categories ⑩ and ⑪）range between 77.5 and 100 %, meaning that this group consist of relatively wide necks and smaller maximum diameter. Given these characteristics, it can be inferred that the vessels in this group tended not to be transported and were used where easy access to the contents was required. This group includes 533 vessels, the proportion of which in the assemblage is 74.2 %. The high proportion of this type of vessel could mean that they were used mainly in daily life in settlements where large quantities of vessels must have been required for cooking, serving and stock.

5.2.3　Analyses of size and shape (1) categories ① to ⑨

This section classifies vessels in categories ① to ⑨ into separate sub-categories, focusing on size and shape of the vessels. However, there was difficulty in obtaining appropriate data on ceramic size from the illustrations of upper bodies because data on ceramic height was also required. Due to this, the data on neck diameter (more accurate than maximum diameter) is tentatively utilised for the identification of difference in size (see Tables 5.2, 5.3). According to the classification based on differences in neck diameters in each category, various shapes of ceramic parts, such as rims, necks and shoulders, are also considered for sub-dividing vessels. The detailed classification is presented from Tables 5.4 and 5.5.

5.2.4 Classification of ceramic forms (1) categories ① to ⑨

This section focuses on differences in morphological characteristics, in order to consider the relationship to the above classification based on size and ratio of neck diameter to maximum diameter. The morphological characteristics can be divided into two main groups: upper body shape and neck to rim shape (see Table 5.6). First, upper body shape is divided into four varieties, ‘High-shouldered’, ‘Curved’, ‘Loosely Curved’ and ‘Straight’. For this division, as there is difficulty in coping with these ceramic shapes by means of statistical analysis, this classification relies on observable characteristics of ceramic shape. Secondly, neck to rim shape is separated widely into two types, ‘Upstanding’ and ‘Curved’, the division of which is made, based on the inside of the neck. The curves on the interior of the ‘Upstanding’ type are relatively distinct whilst those of the ‘Curved’ types are unclear. This could relate to different methods of finishing when the vessels are being formed. In the former, careful finishing of the interior might not be made after rims were attached to body parts. In the latter, covering or concealing joints between bodies and rims resulted in curved shapes of insides, or it is possible that bodies were stretched while the rims were being formed.

Both types of rim shape can be sub-divided (see Table 5.6): ‘Upstanding’ types (four ‘tiny’ types, three ‘upstanding’ types, two ‘bent’ types, one ‘curved’ type) and ‘Curved’ types (one ‘tiny’ type, two ‘upstanding’ types, one ‘curved’ type). Correlations between these types and the proportions of upper bodies and sizes (neck diameters) are considered below, focusing on the four types of upper bodies. This is because upper bodies appear to be more important than the neck to rim shapes in terms of ceramic function, as mentioned above.

The ‘**High-shouldered**’ types (see Figure 5.4) include a majority of categories, with the exception of category ①. However, the vessels in category ⑨ constitute most of this assemblage: 11 of 21 vessels or 52.4%. These vessels are found in a variety of sizes: one small, three small-middle, two middle and seven large types. In other words, the ‘High-shouldered’ types are mainly composed of larger types.

Correlation with ratio of neck diameter to maximum diameter (Figure 5.13; Table 5.7)

There is one notable vessel (no.1603) which has a narrow neck with a swollen body. Aside from this unique exception, the other vessels can be divided into two groups. The Upstanding/upstanding and Upstanding/tiny types tend to have narrow necks whilst the Upstanding/upstanding (leaned), Upstanding/curved and Curved/curved types have relatively wide necks. The border between these two groups lies around 70 %, which signifies the transition between these two types.

Correlation with neck diameters (Figure 5.14; Table 5.8)

There are again two distinctive groups in neck size: a small vessel (no. 313) and large vessels (no. 858, 1745) which are of the Upstanding/upstanding (leaned) type. The Curved/curved and Upstanding/upstanding types have relatively small necks, except one vessel (no. 2089). Meanwhile, the Upstanding/curved and Upstanding/tiny types had larger necks than the above two types. The border between these two groups is about six centimetres.

Through the examination of these two correlations, the assemblage of the ‘High-shouldered’ types can be first separated into two main types in neck to rim shape: ‘Upstanding’ types and ‘Curved’ types. When sub-divided, the former contained six types and the latter includes three types (see Table 5.15). There are clear correlations between these types, sizes and proportions although the number of vessels is few (also see Figure 5.4).

The ‘**Straight**’ type (see Figure 5.5) consists of categories ④, ⑥ to ⑨. This type generally has relatively few swollen bodies, when compared with the ‘High-Shouldered’ type. The size of the ‘Straight’ type of vessel range from small to middle and has no large version unlike the ‘High-Shouldered’ types.

Correlation with ratios of neck diameters to maximum diameters (Figure 5.15; Table 5.9)

There are two main groups, swollen and non-swollen types as well as the ‘High-shouldered’ types, and the border between these groups also lies at around 70%. The former contains Upstanding/tiny, Upstanding/upstanding (l), Upstanding/upstanding and Curved/curved types, among which the Upstanding/upstanding (l) types generally had swollen bodies. On the other hand, the latter consists of only the Curved/upstanding types.

Correlation with neck diameters (Figure 5.16; Table 5.10)

It is difficult to define clear distinctions in neck size because the range of the neck diameters within the ‘Straight’ types, between 3.2 to 5.9 centimetres, is narrow. However, some characteristics can be identified, for example there are two somewhat large ceramics (no. 426, 1971); the Curved/upstanding types are relatively smaller; and the Upstanding/upstanding (l) types tend to be larger in comparison.

Based on these correlations, the vessels classified into the ‘Upstanding’ and ‘Curved’ types are sub-divided into nine types. The former has six types and the latter consists of two types (see Figure 5.5; Table 5.16). The Curved/upstanding types show clear correlations with both the ratio and the size. However, with a total of only 13 vessels, it is uncertain if the trends in the above correlations are significant.

The ‘**Curved**’ types (see Figures 5.6 to 5.9) consist of most of categories ① to ⑨ except category ②. There is variation in size from small to X-large, the breakdown of which is six small, ten small-middle, sixteen middle, eight large and two X-large types. However, the small-middle and middle sizes account for the majority of the whole assemblage of the ‘**Curved**’ types.

Correlation with ratios of neck diameters to maximum diameters (Figure 5.17; Table 5.11)

There are two distinctive groups which have swollen bodies (nos. 1216 and 1207, 618, 1711), compared with the others. In particular, no. 1216, which has a narrow neck and a very swollen body is marked in the assemblage. The ratios of the other vessels are equally distributed between 56 and 76.8% without specific bias.

Correlation with neck diameters (Figure 5.18; Table 5.12)

Vessel size has been divided into five groups: tiny (1.3cms), small (2.6~3.6cms), middle (3.9~6.3cms), large (6.8~8.5cms) and X-large (9~10.1cms). As Table 5.12 shows, most vessels, about 70% of the assemblage, belong to the middle group. The Upstanding/tiny type has a variety of size from small to X-large. The Upstanding/curved type basically consists of the middle size although it has one small-sized vessel (no. 1709). The Upstanding/upstanding (leaned) types have relatively larger sizes from middle to X-large. The Upstanding/upstanding, Upstanding/bent, Curved/tiny and Curved/bent types tend to range from small to middle. However, as the numbers of these types, four, two and five in the above order, are small, these trends are uncertain. The Curved/curved types are mainly composed of the middle and large sizes, the proportion of which is about two to one.

These correlations produce 22 types composed of the two main types in neck to rim shape, the ‘Upstanding’ and ‘Curved’ type (see Table 5.17; also Figures 5.6 to 5.9). The detail of these two types is: the former, fifteen types, and the latter, seven types. There are a number of vessels and many varieties in this assemblage, compared with the other upper body types.

The ‘**Loosely Curved**’ types (see Figures 5.10 to 5.12) include categories ③ to ⑨. The size of the types ranges from small to large, and its breakdown is: four small, nine small-middle, eight middle and two large types. In other words, the majority of the assemblage consists of the small-middle and middle sizes, meaning that the ‘Loosely Curved’ types tend to assume smaller size as well as the ‘Straight’ and ‘Curved’ types.

Correlation with ratios of neck diameters to maximum diameters (Figure 5.19; Table 5.13)

There are three groups having relatively swollen bodies which can be distinguished from the majority of the assemblage. The ratios of neck diameters to maximum diameters of the three groups lie between 52.9 and 63.5% whilst those of the other group are spread between 66.2 and 77%. In terms of the correlation between the established types and the ratios, no specific characteristics can be identified. However, the Upstanding/upstanding (l) type has swollen bodies in the assemblage, although there are only three vessels of this type (nos.695, 863, 1744).

Correlation with neck diameters (Figure 5.20; Table 5.14)

Five groups are considered, based on gaps in the distribution of the size values although these appear to disperse equally between about three and eight centimetres. The five groups are: tiny (2.7cm), small (3.3cm), middle (3.6~6.5cm), large (6.9~7.2cm) and X-large (7.7~7.9cm), and the middle size account for a majority of the assemblage. The most notable characteristic in the correlation between the ceramic types and their neck diameters is that the tiny and small sizes are composed of the Upstanding/tiny types which also have all other sizes. There is no specific bias in the other types, which means that each ceramic type has a variety in size.

Consequently, the assemblage is classified into 22 types constituted of the 'Upstanding' and 'Curved' types in neck to rim shape (see Table 5.18; also Figures 5.10 to 5.12). The percentages of the sub-divided types in these two main groups are relatively comparable: the former, 12 types, and the latter, 10 types. This is different from the above three types in upper body where the 'Upstanding' types account for most of the sub-divided types.

5.2.5 Stratigraphic situations (1) categories ① to ⑨

5.2.5.1 Properties of data sets

This section weighs the relationship between the above established types of pottery and their stratigraphic circumstances for establishing a relative chronological order of these types. This examination requires the following stratigraphic data: where ceramics were recovered from and stratigraphic relations between these contexts. However, several problems with the stratigraphic information available from the site report:

> "*The nature of the Iron Age pottery assemblage dictated the method of processing the material. Large quantities of the ceramics were effectively unstratified, having*

been recovered either by St. George Gray and Bushe-Fox (who left inadequate records) or, in recent excavations, from thick plough soil layers containing a mix of artefacts from various periods. Much of this pottery, by virtue of its provenance, was unsuitable for use in a detailed scheme of classification of degree of wear and presence of residue (most of which would have been destroyed by the highly acid soil of Hengistbury Head)" (Brown 1987b: C1).

This poor data, lacking due to insufficient records from the early excavations and stratigraphy in poor condition, is excluded from this examination of the stratigraphic position of Iron Age vessels. In terms of features, there are four varieties, posthole (PH), pit (P), feature (F) and non-feature (= layer), which were identified mainly in Site 1 excavations in 1970 and 1971 and from 1979 to 1984 (Cunliffe 1987: 75-128). However, Site 3 excavations from 1982 to 1985 and Site 6 (the Dragon-fly ponds) excavations in 1984 and 1985 did not produce adequate quantities of vessels useful for classification, for example: "*Only 205 gm of pottery were recovered. It is listed in detail in fiche 8: A3-8. All Iron Age sherds from the lower cultivation soil (1020) were heavily abraded and were representative of the general M-LIA pottery from the headland*" (Chadburn 1987: 135).

The site report adopts the following ways of presenting the data from features in the 1979-84 excavations (Cunliffe 1987: 20). In the case of "***F****879/563*", *F879* represents the number of the feature 879, and *563* shows the number of the layer 563. In the case of "***O****/275*", *O* represents non-feature, and *275* means the number of the layer 275. In the case of "***Ph*** *8973/1*", *Ph* represents the number of the post-hole 8973, and *1* means the number of the layer 1 although the layer numbers were made anew for postholes. In terms of a broad stratigraphy, 11 phases are presented in "*The sequence of development*" (Cunliffe 1987: 116-128, see Figures 5.21, 5.22; Table 5.19).

Using this data set, identification of the stratigraphic phases of individual vessels is attempted. To do this, stratigraphic data on ceramics is compared with the diagrammatic stratigraphy (Figure 5.21) in the excavation of Site 1 from 1979 to 1984 and stratified plans from each phase presented in the report. in the stratigraphic position of each ceramic sherd can be found in Table 5.20.

5.2.5.2 Analysis of data on ceramic stratigraphy

The 1979-1984 excavations of Site 1 produced a relatively large amount of information on ceramic stratigraphy which is arranged in Tables 5.21, 5.22 and Figure 5.23. There are six Curved/Curved-6 typed vessels which are the most frequently found type in the data. The total number of ceramics in the data is 17, and the rest of the vessels consist of 10 types. In terms of the stratigraphy of the Curved/Curved-6 type, No.1254 found from *phase A* is marked. This vessel has a short rim and thick wall, and also shows a difference in shape to the others. No. 1284 recovered from *phase E* having a rather short shoulder is also a specific type in this assemblage. The rims of the others tend to curve outwards strongly and long. Although the vessels of this group are mainly regarded as late Iron Age pottery in the excavation report, these were recovered from the contexts of the Roman phases except Nos. 1254 and 1221. This stratigraphic circumstance does not allow the vessels to be arranged in relative chronological order.

There are two Curved/Upstanding-11 types which show a difference between these in the ratio of neck diameters to maximum diameters: No. 1229 has a non-swollen body whilst No. 398 has a swollen body. In terms of these morphological characteristics, the former rim is long and leans outwards though the latter rim is somewhat short and upright. There is also a difference in decoration between these vessels. Nos. 1229 and 398 were recovered from different stratigraphic phases: the former, from the late Iron Age 2, and the latter regarded as late Iron Age pottery in the report, from the later Roman Age. It is inappropriate to consider these relative relations in time, based on this stratigraphic circumstance.

There are three different sub-divided types in the Curved/Upstanding group. The ratio of neck diameter to maximum diameter represents a difference: No. 1216 has a strong swollen body. In terms of the stratigraphy, two vessels regarded as middle to late Iron Age 1 pottery were found in the Roman phases whilst the other considered as late Iron Age 2 pottery was recovered from the late Iron Age context.

Four different types of vessels are available from the Loosely Curved type. There is a difference in neck diameters between markedly large No. 1202 and the others. In terms of these stratigraphic circumstances, only No. 433 was found from the Iron Age context whilst two similar types (Nos. 1285, 1288). regarded as late Iron Age pottery in the report, were discovered from the earlier Roman contexts and No. 433, considered to be early Iron Age pottery, was recovered from the later Roman context. In other words, three of four Iron Age vessels belong to the Roman phases and thus, it is unfeasible to arrange these vessels in relative chronological order by use of stratigraphic information.

The above examination reveals the difficulty in understanding clear change in ceramic shape. Using only 17 vessels, it is impossible to establish a relative chronology. Additionally, 11 of 17 vessels were recovered from Roman contexts. It can be inferred that these vessels continued to be manufactured or used after the beginning of the Roman period, or that these were re-deposited after the disturbance of the site in the period.

The stratigraphic information on nine vessels is available from the Site 1 excavation in 1970. However, all of these were found from the same layer (*layer 2*), which does not allow for the establishment of a relative chronological order for these vessels. Additionally, "*the layer may have represented an influx of beach gravel which was then sealed by the topsoil (layer1)*" (Cunliffe 1987 microfiche 4: E2). The Site 1 excavation in 1971 provided five vessels from three different layers (see Figure 5.23; Table 5.21): three of these belong to the same layer (*layer 13*) whilst the other two vessels were recovered from different layers. However, the small number of vessels is inadequate for examining change in ceramic shape.

A number of well-stratified groups exist, which provide a relatively large amount data on ceramic stratigraphy. This is presented in Tables 5.23 and 5.24 with statistical data from the vessels used in the above analysis. The shaded ceramic numbers represent the vessels in categories ① to ⑨ which include vessels whose neck diameters correspond with their orifice diameters, such as 3064(KG5), 363(KG6) and 78(KG8). The typological classification of these vessels with stratigraphic information is presented in Table 5.25.

Cunliffe and Brown employ seven key groups for considering relative chronological order of vessels: *Key Groups 6*, *7*, *8*, *9*, *11*, *13* and *14*. *Key Group 2* consists of vessels found from F575 which is a "*Small pit or ditch terminal partially exposed in excavation area"* and is "*Sealed by Roman ploughsoil (O/823) and cut into natural sand*" (Brown 1987c: 289). There is a possibility that this feature belongs to a phase before the Roman period, but it also could include a part of the period itself. Furthermore, given the condition of F575, this feature may not be appropriate for examining ceramic stratigraphy. According to the report's ceramic scheme, the vessels of *Key Group 2* are regarded as early Iron Age pottery. *Key Group 4* was recovered from a ditch in the Rushy Piece area of the marsh at Site 3 in the 1985 excavation. This group is composed of "*four subgroups representing successive phases of activity*" and "*The phases, each comprising several layers, are as follows: a) redeposited alluvium, b) fill of ditch F914/923, c) occupation* *material post-dating the digging of the ditch, d) gravel spread overlying redeposited alluvium*" (*ibid.*: 291; also see Cunliffe 1987: 13, Ill. 15). In summary, the chronological order of these layers is *c, b*, *a*, and *d*, from earliest to latest. Although five vessels regarded as Middle and earlier Late Iron Age (L1) pottery were found in different layers in the context, this not a large enough sample to consider a relative chronological order of these vessels. Additionally, the correlation with the stratigraphy of Site 1, which produced a large number of vessels, is unknown. *Key Group 5,* which was seen as middle to late Iron Age pottery, was recovered from the basal layers in Trench 15, whose stratigraphic phase and correlation with the other stratigraphic sequences are unknown. *Key Group 10* was produced from a posthole (Ph 199) which "*cuts through F56, a gully forming part of Circular Structure 4"* and also "*appears to cut F28, a linear gully producing LIA2 pottery*" (Brown 1987c: 298). According to this and the report's ceramic scheme, the vessels of this group were attributed to the later Late Iron Age (L2), but whether this feature stratigraphically belongs to an Iron Age phase or a Roman phase is unknown. The information from the *Key Groups* which has been judged to be appropriate for examining ceramic stratigraphy can be seen in Table 5.26.

Although there is not a large enough amount of material to establish a relative chronology of vessels, it is possible to identify certain trends in the relationships between ceramic types and stratigraphic phases. In terms of the four main upper body types, there are differences between the 'Curved' and 'Loosely Curved' types (see Figure 5.25). The former appears in the earlier Late Iron Age (L1) and prevails in the later Late Iron Age (L2). Although there are two 'Curved' types in *phase F* (the earlier Roman Age), this appears to be due to continuation of manufacture and use or re-deposition of these types in the Roman period. On the other hand, the 'Loosely Curved' types exist throughout the Early to Late Iron Ages, but they become less common in the later Late Iron Age (L2). The difference in the periods of popularity of the two upper body types may suggest that the upper body shapes of vessels in categories ① to ⑨ gradually changed from 'loosely curved' to 'curved' throughout the Iron Age.

In terms of the types of neck to rim shape, there are differences between the 'Upstanding', 'Tiny' and 'Curved' types (see Figure 5.26). The 'Upstanding' types are relative popular in the earlier periods, but become gradually less common in the later periods. Meanwhile, the percentages of the 'Tiny' and 'Curved' types begin to increase from the middle period. This situation is similar to the above relation between the 'Loosely Curved' and 'Curved' types in upper body shape, in other words, there could be a correlation between the neck to rim shape and the upper body shape, in terms of the trend of 'curved' shape in the later period. Given the appearance of the 'Tiny' types, the middle period in the Iron Age might be an important stage of change. In terms of the ratio of neck diameter to maximum diameter, it is difficult to identify specific trends as the ratio shows a notable variety throughout the period. A similar situation can be seen in the neck diameter data, however, there tend to be relatively small vessels from the Early to early Late (L1) periods.

5.2.6 Analyses of size and shape (2) categories ⑩ and ⑪

In this section, ceramics of categories ⑩ and ⑪, whose ratio of neck to maximum diameter ranges between 77.5 and 100 % are first classified, based on the difference in size of the neck diameter (see Figure 5.27; Tables 5.27 to 5.29). This is followed by the sub-division of vessels based on the difference in shape of their parts, such as rims, necks and shoulders. The results of these ceramic classifications are presented in Tables 5.30 to 5.32.

5.2.7 Classification of ceramic forms (2) categories ⑩ and ⑪

The classification based on morphological characteristics of vessels is considered in this section, using the the analysis described above. Two factors, upper body shape and neck to rim shape, provide useful classes of vessels as well as in the cases of categories ① to ⑨. The former is composed of four types, 'High-Shouldered', 'Curved', 'Loosely Curved' and 'Straight', and the latter consists of two types, 'Upstanding' and 'Curved'. Sub-divided types based on rim shapes are arranged in Table 5.33: the 'Upstanding' types (three 'tiny' types, two 'upstanding' types, two 'bent' types, one 'curved' type) and the 'Curved' types (two 'upstanding' types, three bent types, one 'curved' type). Based on the four upper body shapes, the relationships between the established ceramic types, ratio of neck diameter to maximum diameter and size (neck diameter) are compared below.

There are three sizes in the '**High-shouldered**' types: one small type, six small-middle types, and one large type (see Figure 5.28; Table 5.33). There are no ceramics of category ⑪ in this assemblage.

Correlation with ratios of neck diameters to maximum diameters (Figure 5.42; Table 5.34)

There is one unique vessel (no.2057) which has a wide mouth compared with the other 21 vessels. These ratios are intensively distributed between 78 and 88 % without differences between the established types.

Correlation with neck diameters (Figure 5.43; Table 5.34)

There is one marked vessel (no.2057) which is X-large in the 'High-shouldered' type and there are four other sizes: small (3.5~4cms), small-middle (4.7~6.3cms), middle-large (6.8~7.2cms), and large (9.8cm). There are two types in the small size which are composed of the ‘Upstanding’ types. The vessels of the small-middle size mainly consist of the ‘Upstanding/tiny’ and ‘Curved/upstanding’ types, both of which have a very wide distribution, and the numbers of these two types are almost equivalent to each other. In the middle-large size, there are equally the ‘Curved/upstanding’ and ‘Curved/curved’ types. The vessels of the large size constitute all the ‘Curved/bent’ types in the ‘High-shouldered’ type.

The ‘High-shouldered’ types in upper body shape can be separated in two groups, based on the neck to rim shape: ‘Upstanding’ and ‘Curved’. Based on the detailed characteristics of neck to rim shapes, the former vessels are sub-divided into four types, and the latter has six sub-division types (see Table 5.42). According to the above examination, these sub-division types are likely to be correlated with degree of body swell and neck size. The most remarkable vessel is one of the ‘Upstanding/tiny’ type (no. 2057) which is extraordinary in terms of both the ratios of neck to maximum diameters and the neck diameters. The ‘Curved’ types tend to have larger necks whilst the ‘Upstanding’ types relatively have smaller necks. The middle-large and large type vessels belong to only the ‘Curved’ types though the ‘Upstanding’ types are composed of the small and small-middle sizes.

The ‘**Curved**’ type is made up of vessels from category ⑩ (see Figures 5.29, 5.30). In terms of size, the small-middle types are common: there are nine small-middle types and one large type (see Table 5.33).

Correlation with ratio of neck diameter to maximum diameter (Figure 5.44; Table 5.34)

There is one notable vessel (no.537) which has a broader neck, compared with the other 31 vessels. Although these ratios can be divided into six groups (see Table 5.34), these are equally distributed between 78 and 90 % without specific correlations between the six groups and the established ceramic types. However, the ‘Upstanding/tiny’ types tend to have swollen bodies and the ‘Curved /curved’ types are likely to have non-swollen bodies.

Correlation with neck diameters (Figure 5.45; Table 5.34)

There are two unusual vessels in the assemblage: large (no.776: 8.4cm) and X-large (no.1274: 10.4cm). The other sizes are small (4.1~4.4cms), small-middle (4.8~5.8cms) and middle-large (6.1~7.4cms). The ‘Curved’ types in neck to rim shape constitute the small size with two types although the vessels of the small-middle and middle-large types consist of a variety of the established ceramic types.

The assemblage, composed of the ‘Upstanding’ types and the ‘Curved’ types in neck to rim shape, is subdivided: the former into ten types and the latter into eight types (see Table 5.43). Distinctive vessels are a ‘Curved/curved’ type (no.1274) and an ‘Upstanding/tiny’ type (no.776) (also see Figure 5.29). The former has a non-swollen body and rather a large neck whilst the latter bears a swollen body and large mouth. The ‘Upstanding/tiny’ types tend to have relatively swollen bodies and larger necks. However, most ceramic types in the assemblage do not show specific trends in relation to both the ratio and the size.

Category ⑩ constitutes all the ‘**Loosely Curved**’ types (see Figures 5.31 to 5.36). 12 types of the small-middle size account for most vessels in this assemblage. The breakdown of the other sizes is: four small types, three middle-large types, two large types and one X-large type (see Table 5.33).

Correlation with ratio of neck to maximum diameter (Figure 5.46; Tables 35 to 38)

The ratios are evenly distributed between 77 and 99 % without extraordinary vessels unlike the cases of the ‘High-shouldered’ and ‘Curved’ types. The major sub-divided types are composed of ‘Upstanding/tiny’, ‘Upstanding/upstanding’, ‘Curved/upstanding’ and ‘Curved/curved’. However, the ratios in the ‘Upstanding/curved’ types are distributed in more than about 90 %, meaning relatively non-swollen bodies. Additionally, the distribution of the ratios in the Curved/bent type can broadly be separated into two groups, suggesting swollen and non-swollen bodies. The ratios in the former composed of six vessels lie between about 78 and 82 % whilst those in the latter constituted of seven vessels are distributed between 89 and 93 %.

Correlation with neck diameters (Figure 5.47; Tables 5.35 to 5.38)

There are two unusually sized vessels: tiny (no.231: 2.4cm) and X-large (no.1249: 11.8cm). The others are separated into several sizes, based on the gaps in the ratio distribution: small (3.1~3.6cms), small-middle (3.7~8cms), middle-large (8.2~8.7cms), large 1 (9~9.2cms) and large 2 (9.9~10.2cms). The small size has six vessels composed of both the ‘Upstanding’ types and ‘Curved’ types in neck to rim shape whose numbers are equal, although the ceramic quantity of these is insufficient for considering correlations with neck diameters. The small-middle size is the main group in the assemblage of the ‘Loosely Curved’ type, and there is no specific bias in the distribution between the sub-divided types. However, the size of the ‘Upstanding/tiny’ type tends to be smaller than those of the other types. There are 13 vessels in the middle-large size, 11 of which (85%) are the ‘Curved’ types in neck to rim shape, and eight ‘Curved/curved’ types are the main component in the middle-large size (see Table 5.38). The large 1 size composed of three vessels has different ceramic types and there are six vessels in the large 2 size, five of which (83.3 %) belong to the ‘Curved/curved’ type though the numbers of these are too few to compare between them. As a result of the above examinations, the assemblage are classified into 25 types, based on the ‘Upstanding’ types and the ‘Curved’ types in neck to rim shape, the breakdown of which is: the former, 14 types and the latter, 11 types (see Table 5.44).

The '**Straight**' type is mainly composed of category ⑩, but includes three ceramics of category ⑪ (see Figures 5.36 to 5.41). In terms of size, 16 types of the small-middle size account for most vessel types in this assemblage. The detail of the others is: three small, six middle-large, five large types and one X-large type (see Table 5.33).

Correlation with ratios of neck to maximum diameters (Figure 5.48; Tables 5.39 to 5.41)

The ratios in the 'Straight' type equally disperse between 77 and 99%, and a group of this assemblage having a relatively swollen body, whose ratios are distributed between 77 and 82%, tends not to be common. This group is composed of six vessels, all of which consist of the 'Curved/upstanding' types except one 'Curved/curved' type. However, the other 'Curved' types tend to be constituted of non-swollen bodies, the detail of these ratios is: 10 of 14 'Curved/bent' types (71.4%) lie between 91 and 96%; 64 of 77 'Curved/curved' types (83.1%) are distributed in more than about 90 %; and 64 of 77 'Curved/upstanding' types (85.7%) are in more than 86 %. On the other hand, the 'Upstanding' types in neck to rim shape do not show specific trends in the degree of body swell, for example: the ratios in the 'Upstanding/tiny' types are distributed throughout. Though six 'Upstanding/upstanding' types could be separated into two groups, the number is too few to define these trends.

Correlation with the neck diameters (Figure 5.49; Tables 5.39 to 5.41)

There is one remarkable vessel which is X-large (no.1807: 12cm) in the 'Straight' type. Based on the gaps in the distribution of neck diameters, the other vessels can be separated into small (3~3.6cms), small-middle (3.7~6.5cms), middle (6.6~6.9cms), middle-large (7~8.7cms), large 1 (8.9~9.5cms), large 2 (9.8~9.9cms) and large 3 (10.3~10.5cms). The small size consists of six vessels, the detail of which is: two 'Upstanding/tiny' types and four 'Curved/upstanding' types, although there is not a large enough number of vessels to consider the correlation with neck diameter. A distinctive situation can be identified in the distribution of the 'Curved /curved' type of the small-middle size. 51 of 57 vessels of this type (89.4%) disperse between 4.8 and 6.5 centimetres, meaning larger size in the small-middle. The middle size includes three different ceramic types composed of five vessels insufficient for examining the correlations. The second biggest group in the 'Straight' types is the middle-large size where there are 44 vessels and four different ceramic types: 'Curved/bent', 'Curved/curved', 'Curved/upstanding' and 'Upstanding/tiny'. Although the three latter types are the main components in the middle-large size, these broadly show equal distributions within the range of this size. There are nine vessels in the large 1 size which are composed of five different types, and the numbers of the other large sizes is also very few: three large 2 vessels and two large 3 vessels, both of which have the 'Curved/upstanding' type and 'Upstanding/tiny' types.

In summary, in terms of the degree of body swell, the 'Upstanding' types in neck to rim shape have various shapes whilst the 'Curved' types assume relatively non-swollen bodies. For size (neck diameters), most types tend to have a variety of size except the 'Curved/curved' type whose neck size is relatively larger than those of other types. The neck diameters of 71 of the 77 vessels of this type (92.2 %) are larger than five centimetres. Additionally, the large 3 (Nos. 1676, 2005) and X-large (No. 1807) types have non-swollen bodies: their ratios are in more than 96 %. Consequently, the assemblage in the **Straight** type is separated into 39 types which are composed of the two main types in neck to rim shape, 20 ‘Upstanding’ types and 19 ‘Curved’ types (Table 5.45).

5.2.8 Stratigraphic situations (2) categories ⑩ and ⑪

Using the stratigraphic data provided by the site report, the relationship between the established ceramic types and their stratigraphic position was examined to establish the relative chronological order of the vessels. The information from the Site 1 excavations in 1979-1984 is presented in Table 5.46: the left side of the table is based on the upper body classification whilst the right side is based on the stratigraphic phases. The ceramic illustrations, arranged based on this information, are reproduced in Figures 5.50 and 5.51.

First, broad trends between stratigraphic phases, the four upper body types and the sub-divided types in neck to rim shape are considered. In terms of the upper body shape, the ‘Straight’ and ‘Loosely Curved’ types constitute the majority of vessels in each phase, the percentages of which are above 80% (see Figure 5.54). The ‘High-shouldered’ types account for about 10 % through all the phases except the earlier Late Iron Age (phase C) whilst the ‘Curved’ types show around 10 % in each phase after the later Late Iron Age (phase D). This suggests that rounded upper bodies constitute a part of the assemblage after the later Late Iron Age (phase D).

For neck to rim shape, the ‘Tiny’ types were separated from the ‘Upstanding’ types as they seemed to be a distinguishable group with adequate quantities for analysis. Except for the Late Roman period (phases I to K), the ‘Curved’ types account for a majority of vessels in each period: these tend to decreases after the Roman period (phases E to K) (see Figure

5.55). On the other hand, the ‘Tiny’ types increase after the Roman period, and no specific trends in the ‘Upstanding’ types are identified.

Secondly, the circumstances in each type of the four upper body shapes are examined. There are four vessels in the ‘**High-shouldered**’ types, whose phases spread through the Iron Age to the Roman period (see Table 5.47). Although these trends through the periods can not be defined because of the paucity of these, it is possible to indicate these certain characteristics. Vessels (Nos. 327, 1260) belonging to the Iron Age (phases A and D) are larger than those (Nos. 1224, 1270) recovered from the Roman contexts (phases G and I), in terms of neck diameters. For ratio of neck diameters to maximum diameters, the vessel from the earlier Iron Age (No. 1260) has a relatively non-swollen body, compared with the vessel of the later Iron Age (no. 327). The vessels belonging to the Iron Age are composed of the ‘Curved’ types in neck to rim shape whilst the rest regarded as Late Iron Age pottery in the report were recovered from the Roman contexts, and consists of the ‘Upstanding’ types. There are five vessels in the ‘**Curved**’ type which are identified these stratigraphic phases (see Table 5.47). However, as four of these vessels were recovered from Roman contexts, these are not appropriate for establishing a relative chronological order within an Iron Age framework.

27 vessels are available from the ‘**Loosely Curved**’ type (see Table 5.47). In terms of neck to rim shape, there are five ‘Upstanding’ types and four ‘Curved’ types although the differences between these two main types do not show specific correlations with these staratigraphic phases. There are five types having only one vessel which are not effective for considering the correlations. The ‘Upstanding-7’ types are constituted of four vessels, however, few characteristics are identifiable except one vessel (No.1269) from a Roman context (phase E) having a non-swollen body. There is no correlation between the two vessels (No. 1213, 1246) found in different Iron Age contexts (phases C and D). The

‘Curved-5’ types have 11 vessels ranging from the Iron Age to the Roman period without notable trends. Five of these vessels were found in Iron Age contexts. A vessel (No. 427) belonging to the later Late Iron Age (phase D) is smaller and has a swollen body, compared with earlier vessels from the earlier Late Iron Age (phase C) and Early to Middle Iron Age (phase A). It is important to note an inconsistency that one vessel (No. 1256) from an earlier context (phase A: Early to Middle Iron Age) is regarded as a later vessel (the earlier Late Iron Age) in the site report, which is allocated to “*BD 3.11*” in the report’s classification of Iron Age pottery (Brown 1987a). The ‘Curved-6’ types have only two vessels: one from an Iron Age context (phase C) and another from a Roman context (phase H). There are five vessels in the ‘Curved-11’ types, two of which were recovered from different Iron Age contexts (phases C and D). There is a difference in ratio of neck diameters to maximum diameters between the two vessels: No.1317 from an earlier period has a non-swollen body, whilst No.256 from a later period has a swollen body.

There are 26 vessels in the ‘**Straight**’ type, (see Table 5.47). In terms of neck to rim shape, there are eight ‘Upstanding’ types and eight ‘Curved’ types, but the differences between the two main types do not clearly correlate with the stratigraphic phases. One of the main reasons is that only one vessel is available from eight types. Additionally, the ‘Upstanding-3’ and **‘**Upstanding-4’ types have five vessels in total, but these were all recovered from Roman contexts (phases E to K). These vessels are therefore not relevant for establishing chronological ceramic sequences of the Iron Age. The ‘Curved-2’ type provides four vessels: two from Iron Age contexts (phases A and C) and the other two from Roman contexts (phases E and G), however, it is difficult to identify specific trends in change of ceramic shape between these vessels because of this stratigraphic situation and the inadequate number of vessels. There is an inconsistency in the site report in relation to stratigraphy and ceramic chronology: No. 1257 from an earlier context (phase

A: Early to Middle Iron Age) is considered as a later vessel (the earlier Late Iron Age), which belongs to "*JD 4.21*" in the ceramic classification of the report (Brown 1987a). Two vessels available from the 'Curved-7' type: one from the earlier Iron Age context (phase A) and another from the later Iron Age context (phase D), whose statistical data shows no specific differences between these. No. 1296 belonging to "*BD 1.3*" regarded as the earlier Late Iron Age (*ibid.*) was incoherently recovered from an earlier context (phase A: Early to Middle Iron Age). The 'Curved-15' types have the same situation as the 'Curved-7' types, apart from a contradictory example. There are three vessels in the 'Curved-17' type, all of which were recovered from Roam contexts (phases F, H, I), meaning that these are irrelevant materials for establishing chronological sequences of Iron Age pottery.

The excavation of Site 1 in 1970 provides five vessels with the stratigraphic information, however, they were all found from *layer 2*, as well as those in categories ① to ⑨ (see Table 5.48). Therefore, these vessels do not contribute to examinations of these chronological sequences. In terms of the excavation of Site 1 in 1971, although two vessels were recovered from different layers, there are too few vessels to consider the development of ceramic shape.

Stratigraphic data from well-stratified groups is available in Tables 5.23 and 5.24 alongside the statistical information from the above section. The non-shaded ceramic numbers show the vessels in categories ⑩ to ⑪. The typological classification of these vessels is presented with stratigraphic information in Table 5.49 and the new ceramic types identified are added to the types established above (see Table 5.50; Figures 5.53, 5.52).

Ceramic groups which are useful for understanding the stratigraphic sequence include *Key Groups 6*, *7*, *8*, *9, 12* and *14*. The details of the other *Key Groups* are mentioned below; however, those of *Key Groups 4* and *10* are omitted as these were examined in section 5.2.5. *Key Group 1* is composed of vessels from Ph 1765: "*Post-hole cut into natural sand and sealed by a Roman plough soil (0/823)*" (Brown 1987c: 289). It is uncertain if this feature belongs to a period before or after the Roman period. According to the report's scheme of Iron Age pottery, the assemblage from Ph1765 is regarded as Early Iron Age pottery, but the period of this feature is unlikely to be determined, based on the stratigraphic information. *Key Group 3* consists of vessels from the layer 19/23 of trench 1 of the excavation in 1971 (*ibid.*: 291). According to "*Description of stratigraphy, 1970-1*" (Cunliffe 1987 microfiche 4: E 1-8), this layer is lowest in the stratigraphic sequence and thus, the vessels belong to the earliest period in the trench. However, this stratigraphic information is unlikely to be comparable to the stratigraphic phases in the 1979-84 excavation although the report dated the layer, using its own ceramic scheme. Vessels of *Key Group 5* were recovered from basal layers in trench 15 which are "*soil accumulation on slope and in shallow hollows in natural gravel*" (Brown 1987c: 295). There are no ceramics which can be stratigraphically compared with the vessels of this group, which has the same issue as *Key Group 3*. *Key Group 11* consists of vessels from F 150: a "*remnant of a small ditch or gully truncated by part of the north-south running Roman ditch complex (DC6)*" (*ibid.*: 298). However, it is uncertain whether the vessels regarded as late Late Iron Age (L2) were recovered from phase D. Vessels of *Key Group 13* were found from F 593: a "*north-south running ditch, truncated by Roman ditch complex DC13*" and "*probably a LIA2 version of this ditch system*" (*ibid.*: 303). Similarly, the stratigraphic phase on this feature is unavailable from the report.

The relations between stratigraphic phases, the four upper body shapes and the sub-divided types in neck to rim shape were considered, using the information on the useful *Key Groups* (see Figures 5.56, 5.57). In terms of the four upper body shapes, the 'Loosely Curved' type accounts for vessels in the Early to Middle Iron Age (phase A).

However, in the transition period from the Middle to the earlier Late Iron Age (phases A to C) and the earlier Late Iron Age (phase C), the ‘Straight’ type covers about 50 % whilst the other three types respectively account for around 10 %. In the later Late Iron Age (phase D) and the early Roman period (phase F), the ‘Loosely Curved’ types becomes common, representing about 40 % as well as the ‘Straight’ type.

For the neck to rim shape, in the Early to the Middle Iron Age (phase A), vessels are composed of the ‘Curved’ and the ‘Upstanding’ types though the former is somewhat more common than the latter. From the Middle to the earlier Late Iron Age (phases A to C), the ‘Tiny’ type replaces the ‘Upstanding’ type, and the percentages of the ‘Tiny’ and ‘Curved’ types show 50 % each. In the earlier Late Iron Age (phase C), the quantity of the ‘Curved’ type increases and reaches beyond 60 % of the assemblage where there are the ‘Upstanding’ type again. In the later Late Iron Age (phase D) and the early Roman period (phase F), the ‘Tiny’ types become most popular in the three types, representing 50 % of the assemblage.

Through the above examination, it is clear that there are not enough vessels to analyse the relationship between the established ceramic types and the stratigraphic information on these. Also, the data on only three stratigraphic phases, C, D and F, is available for comparing vessels between different stratigraphic contexts (see Table 5.49). In terms of the Iron Age, there are two useful phases for considering ceramic chronologies, both of which are the Late Iron Age. These circumstances do not readily allow for the arrangement of the classified vessels in relative chronological order. It is highly possible that the phases applied to vessels relied on the ceramic scheme adopted in the site report (Brown 1987a). Given this and the inconsistencies identified above, we must reconsider the existing chronological sequences of the Iron Age pottery from Hengistbury Head.

5.3 Method 2: Analyses on morphological characteristics

5.3.1 Review of the typological classification on statistical analyses

This section reviews Method 1 to check its effectiveness and to explore more appropriate methods. This method was addressed according to the following four stages (see Figures 5.58, 5.59). In **Step 1**, the classification of vessels based on fundamental differences in the shape of the ceramic vessels' upper body (ratio of neck diameters to maximum diameters) produced classificatory schemes composed of two different levels. First, vessels between about 40 and 100% on the ratio graph (Fig. 5.3) were relatively finely divided into 11 categories (①～⑪). Next, these categories were grouped into two groups, ①～⑨ (41.9 to 77%) and ⑩～⑪ (77.5 to 100%), for illuminating the structure of the pottery assemblage, this is effectively between more open and more closed forms. In **Step 2**, the vessels were separated by size (neck diameters) in each category, with their morphological characteristics. The size is another objective data which is very important for pottery classification. However, the established ceramic types in each size of each category included various morphological features, and the ceramic scheme remained overly complicated. This could mean that the subdivided types potentially did not have any really difference at that time. Because of this, the vessels were further re-classified in **Step 3**, based on the morphological factors which were available in Step 2. These factors consisted of two sections of upper portions of vessels: shoulders to middle bodies and necks to rims, and four types in the former and two types in the latter were identified. Subsequently, the correlations between these attribute types, the degrees of body swell and the sizes were examined, which resulted in producing more appropriate types of vessels.

Finally, in order to consider chronological positions of the finally-established types, the relations between the ceramic types and the stratigraphy of these were examined in **Step 4**.

In terms of sub-division from Step 2 to 3, "*the envelope system*" devised by Orton (1993:158-9) appeared to be effective for classification of ceramic sherds. However, this system is useful for identifying "*the range of variation possible within a type-definition*" and "*inconsistencies in definitions*" (*ibid.*: 158), based on the defined typological shapes, not for defining types. In addition, this system requires materials to be integrated into a same scale for them to be overlaid. This can be confusing and time consuming when analysing a large amount of vessels as the case of Hengistbury Head. Furthermore, Orton's study dealt with sherds from a delftware kiln which must have been much more standardised than those in prehistoric production, therefore it was probably relatively successful. Because of these, "*the envelope system*" appears to have been uncommon in classification studies of Iron Age pottery in Britain.

This approach produced the detailed typological classification of Iron Age vessels from Hengistbury Head, based on statistical analyses and examination of specific parts of ceramic shape. This approach aimed at being objective and organised unlike existing methods, however, the classification produced appears to be too complicated for understanding the ceramic scheme. This is because there is a large amount of variation between vessels and because an inadequate amount of stratigraphic data was included in the site report. In order to produce a more useful classification of the vessels, a balance between objectivity and classificatory organisation is required. Accordingly, another method (Method 2) will be considered below. Step 1 adopted in Method 1 is important and appears to be effective for a fundamental classification of upper body of pottery, hence, this approach will be maintained. However, as the detailed analyses of size did not provide useful size division in Method 1, it appears that this approach should be omitted for the classification of the assemblage of Hengistbury Head. Alternatively, classification of vessels on broad characteristics will be adopted, focusing on surface (‘Plain’ type and ‘Decorative’ type) and shape (‘Rounded’ body and ‘Inflectional’ body). Through the above examination, it was inferred that these factors would be useful for the classification of the assemblage and for understanding the classification more readily. According to the classification based on these factors, visible attributes, such as rim shape, shoulder shape and decoration patterns, will be also utilised for sub-division. In the process of the ceramic classification, extremely minor types will be excluded to avoid complication of a classification framework.

5.3.2 Classification of vessels on these morphological characteristics

After a classification based on the ratios of neck diameter to maximum diameter was completed the vessels were separated into the ‘Plain (no decoration)’ type and the ‘Decorative’ type. Based on this broad classification, a re-examination of the stratigraphic positions of the vessels is undertaken.

There were 15 vessels from categories ① to ⑨ recovered from phases A to D (see Figure 5.60; Tables 5.51, 5.52). It is difficult to understand the transition in ceramic shape for three reasons: 1) most of the ‘Plain’ types are from phase D; 2) most of the ‘Decorative’ types are from phase C and 3) there is only one vessel from phase A. The difference in decoration could be due to the difference between the periods, but this is uncertain, given various characteristics in ceramic shape. One point about change in ceramic shape can be indicated: ceramic shoulders in the later period (phase D) tend to be rounded and high, compared with those having small or minimal rims in the earlier layer (phase C).

There are 51 vessels in categories ⑩ and ⑪ found from phases A to D (see Figures 5.61, 5.62; Tables 5.46, 5.47), which can be also separated into two groups, the ‘Plain’ (no decoration) type and the ‘Decorative’ type. Each type can be further divided into two types in upper body, the ‘Rounded’ type and the ‘Inflectional’ type, although this division is unclear in some vessels (see Figures 5.63, 5.64). In terms of development in ceramic shape, it is difficult to identify definite typological changes in the ceramics as there is not a large enough amount of pottery from each stratigraphic phase. However, there appear to be certain trends in ceramic shapes, for example: shoulders are likely to become more rounded and higher than in the earlier phases (phases C and A) in the later phase (phase D). Ceramics in the later period also tend to assume small or minimal rims. For instance, ‘jar’-like vessels in the ‘Plain’ type (see the rightmost ‘LC’ types in Figure 5.63) appear to show this trend. A similar trend is also recognisable in the existing chronological frameworks (*e.g.* Cunliffe 1984b; Brown 1991a).

Given these characteristics, the following logical development in ceramic shape should be considered:

1) upper body (shoulder) shape changes from ‘straight’ or ‘loosely curved’ to ‘rounded or high-shouldered’: the degree of curving becomes stronger and shoulders become higher;
2) rims change from ‘long’ to ‘short’ or from ‘big’ to ‘small’.

Accordingly, a sub-division of vessels will be attempted below, focusing on distinctive attributes such as surface treatment, upper body shape, neck to rim shape and decoration patterns. The main divisions made here are: 1) ‘Plain’ and ‘Decorative’ on surface; 2)

‘Swollen’ (categories ① to ⑨) and ‘Non-swollen’ in upper body (categories ⑩ and ⑪) and 3) ‘Rounded’ and ‘Inflectional’ in upper body**.**

Categories ① to ⑨

The vessels in category ① to ⑨ have relatively smaller mouths and swollen bodies, accounting for a quarter of the assemblage of Iron Age pottery. However, the vessels in categories ① to ③ (see Figure 5.60) are different from the rest of the swollen body group (categories ① to ⑨) and are too few to consider typological classification of the vessels. Therefore, categories ④ to ⑨ will be dealt with for the examination of this group. The detailed explanation and the ceramic illustrations are presented in Figures 5.65 to 5.70 and Table 5.53.

Categories ⑩ and ⑪

The ceramics of categories ⑩ and ⑪ have larger mouths and less swollen bodies than those of the above categories, representing around three quarters of the whole assemblage. However, there are only three vessels in category ⑪ and thus, category ⑩ is the largest group in the assemblage. It is important to note that there are various types of shape in category ⑩ as shown in Figures 5.71 to 5.86 and Table 5.54.

5.3.3 Main forms in the assemblage

According to the above typological classification (Tables 5.53 and 5.54), the major forms are selected below, considering the difference in the numbers of ceramics. This is to facilitate the understanding of the classification, reducing its complexity.

Categories ④ to ⑨ (Figures 5.87, 5.88)

This group is firstly divided into the ‘Plain’ type and the ‘Decorative’ type. In terms of body shape, most vessels assume ‘Rounded’ bodies although there is one exceptional type having an ‘Inflectional’ body (see Table 5.53). There are three main forms in the ‘Plain’ type (see Figure 5.87): vessels with long rims, short to minimal rims and handles. It is unclear how vessels with middle-sized rims (Nos. 666 and 1202) relate to the three forms. There are no vessels useful for considering the development of these vessels, in terms of the degree of body swell and rim shape. Despite this, it is feasible that the ‘Plain’ type vessels are arranged into three or more stages, in relative chronological order, based on these two important factors.

The ‘Decorative’ types can be roughly separated into two groups: vessels with motifs and with horizontal line decorations (see Figure 5.88). Although the former has various decoration patterns, linear roulettes and combination of dots and grooves are the most outstanding motifs in the assemblage of the ‘Decorative’ type. The latter consists of (plural and single) cordons and sequential grooves. Both groups can be divided into four stages in the development of the vessels, based on differences in body shapes and rim shapes.

Categories ⑩ and ⑪ (see Figures 5.89 to 5.94)

Categories ⑩ and ⑪ types are also separated into the two main surface types, ‘Plain’ and ‘Decorative’. In terms of body shape, each of these has both the ‘Rounded types and the ‘Inflectional’ types (see Table 5.54). In both these types of body shape, vessels can be further divided into two types of shape, ‘deep’ and ‘shallow’. In the ‘deep’ ‘Rounded’ body type in the ‘Plain’ type, it is inferred that various rim sizes are integrated into minimal size according to the logical development presented above (*e.g.* see Figure 5.89). This assemblage of the ‘deep’ vessels is composed of three types in upper body:

high-shouldered, straight and loosely curved bodies. Consequently, this group can be chronologically arranged in five or six stages although there remain points to be considered about the relationships between different types.

In terms of the ‘shallow’ type, there are two main forms: distinctive rims and minimal rims (see Figure 5.90). The former can be divided into two types, based on the difference of wall thickness, and can be separated into three or four chronological stages. The latter can be also classified into two types on the difference in rim shape with three stages in time.

The ‘shallow’ type in the ‘Inflectional’ body group has diverse shapes: vessels with vertical upper bodies, slant inwards bodies (see Figure 5.90), short shoulders and short shoulders with vertical necks (see Figure 5.91). These can be chronologically separated into three or four stages. The ‘Inflectional’ body group has one deep type which is composed of three chronological stages (see Figure 5.91).

The ‘Rounded’ body group in the ‘Decorative’ type can be broadly categorised into seven varieties, based on the difference in decoration patterns: two grooves, sequential grooves, one groove, pairs of two grooves, two cordons, one cordon and various motifs (see Figures 5.91 to 5.93). There are a few shallow body types in these varieties. Each variety can be arranged in four or five stages in relative chronological order.

In the ‘Inflectional’ body group, there are about eight varieties according to the difference in decoration patterns: two grooves, sequential grooves, one groove, unclear lines, dots and grooves, a roughened strip, one cordon and two cordons (see Figures 5.93, 5.94), including some shallow body types. Four or five chronological stages constitute these individual varieties.

5.4 Summary

Given the problems with existing approaches to the classification and chronology of Iron Age pottery in central-southern Britain, this chapter has explored more appropriate methods for these studies, using statistical analysis of the ceramic assemblage from Hengistbury Head. In Method 1, a detailed classification of the vessels was produced and the chronology was considered, based on four stages (see Figures 5.58, 5.59). However, the result of this method appeared to be too complex, due to the huge variety of vessels and the small amount of stratigraphic data.

To solve this problem, Method 2 utilised the observable morphological characteristics of the vessels, omitting the difference in size. However, the classification based on the ratio of neck diameters to maximum diameters was maintained as it appeared to be important as the most fundamental classification of ceramic function. Based on this approach, the examination of stratigraphy produced certain logical developments in ceramic shapes although the inadequate amount of stratigraphic data continues to be problematic. This examination also provided useful factors for ceramic classification: the two main factors were surface appearance ('Plain' and 'Decorative') and upper body shape ('Rounded' and 'Inflectional'), and other attributes such as rim shape and decoration were subordinately used (see Tables 5.53 and 5.54). Subsequently, it was inferred that the individual forms changed broadly through three to five stages in relative chronological order. However, it was not possible to apply absolute dates to the classified vessels, although a large number of *amphorae* were recovered from the site. This issue will be further discussed in Chapter 7. The majority of the vessels re-examined in this case study appear to belong to the Later Iron Age, given existing ceramic chronological schemes (Cunliffe 1984b; Brown 1987a), but absolute dates are required for confirmation.

Chapter 6

A regional typological classification of Iron Age vessels: ceramic chronologies and comparisons

6.1 Introduction

This chapter addresses several further case studies, using the typological methods established in the previous chapter. This is to verify their usefulness and to construct a ceramic framework for each Iron Age site. This is followed by a comparison between the ceramic schemes of the case study sites, which highlights the characteristics of these individual schemes and the regional framework of Iron Age pottery. It also reveals important issues about the nature of Iron Age pottery in the case study region and of the archaeological data related to the pottery, which will be further discussed in Chapter 7.

Eight Iron Age sites in the Andover area were selected for examination, because they contained an adequate number of ceramic illustrations in their site reports: Danebury, Suddern Farm, Houghton Down, Woolbury, Nettlebank Copse, Bury Hill, Balksbury Camp and Old Down Farm. This area was selected for the case studies because it is important for Iron Age pottery studies and related studies, as noted in Chapter 3. Each case study is composed of two sections: examination of the stratigraphic information and absolute dating, and typological classification of vessels based on morphological factors. For each case study site, a ceramic scheme is produced

6.2 Ceramic Typological Classifications and Chronologies

6.2.1 Case Study 1: *Danebury*

6.2.1.1 Introduction

Danebury is an important Iron Age hillfort site in central-southern Britain. This site is located "*on a hill rising to a height of 143 m above sea level, between 45 and 60 m above the surrounding level of the gently undulating chalk plain of Wessex*" (Cunliffe 1984a: 1). The main excavation of this site was undertaken between 1969 and 1988 by Barry Cunliffe, and the full excavation reports were published in 1984 and 1991: the former includes the results of excavations between 1969 and 1978 (Cunliffe 1984a,b), and the latter contains the results from between 1979 and 1988 (Cunliffe and Poole 1991a,b).

In the 1984 report, the ceramic illustrations for typological classification are presented in *Appendix 1* and *Appendix 4* in *Volume 2* (Cunliffe 1984b: 259-307, 314-331). *Appendix 1*: *the ceramic forms described and illustrated* is the explanation section of the classification scheme of Iron Age pottery adopted in the report, presenting many ceramic illustrations. These are composed of the representatives of each variety defined in the classification scheme of the report (*ibid.*: 232), hence, many of these retain upper bodies which are useful for typological classification by the method adopted in this study. In *Appendix 4: some typical stratified groups*, according to the ceramic phases ("cp") presented in the site report (*ibid.*: 234), a number of ceramic illustrations are presented in each feature such as pits and postholes. Each stratified group produced a significant number of sherds, including upper bodies of vessels from the earlier to the later Iron Age. Additionally, selected vessels are also exhibited in microfiches attached in the excavation report, as *pottery listed and illustrated by context* and *some typical stratified groups* (*ibid.*: microfiche 1: E4-F10, microfiche 8: E6-G8).

The 1991 report also presents ceramic illustrations in *Appendix 1* and *Appendix 4* (Cunliffe and Poole 1991b: 288-299, 300-318). *Appendix 1*: *the ceramic forms described and illustrated* is the explanation section of the ceramic classification scheme as well as the 1984 report (Cunliffe 1984b), however, the ceramic illustrations in the 1991 report are mainly new varieties identified in the later period of Danebuy's excavation projects. These illustrations are similarly the representative varieties in the ceramic classification of the site report and contain many upper bodies. The presentation of *Appendix 4: some typical stratified groups* follows the format adopted in the 1984 report, hence it includes many upper bodies useful for this analyses. The microfiches attached in the excavation report also present a number of illustrations of stratified groups (Cunliffe and Poole 1991b: micro fiche 26: B1-B10).

According to the excavation reports, the 1969-1978 excavations produced 103,417 sherds, weighing 642 kg, from various features, and it was estimated that about 5,300 vessel sherds, weighing 33 kg, were recovered from postholes (Cunliffe 1984b: 231). 49,533 sherds, weighing 735 kg, were recovered during the excavations between 1978 and 1988 (Cunliffe and Poole 1991b: 277). Consequently, the assemblage of Iron Age pottery amounts to about 158,250 sherds weighing around 1,410 kg.

The excavation reports and microfiches present a total of 1,245 illustrations of Iron Age vessels: 862 illustrations in the 1984 report (Volume 2), and 383 illustrations in the 1991 report (Volume 5),. However, the number of vessels in complete profile from rim to base is 99 in the illustrations of the 1984 report, accounting for only 11.5% of the total illustrated sherds, and is only 30 in the illustrations of the 1991 report, representing only 7.8% of the total (see Figure 6.1). Therefore, the total number of ceramic illustrations in complete profile is 129, or only 10.4% of the whole assemblage of Iron Age pottery presented in the site reports. Thus, in order to examine as many vessels as possible, the upper bodies of vessels, including perfect profiles, are adopted for ceramic classification, as in the case of Hengistbury Head. The number of the upper bodies available from the 1984 report is 364, representing 42.2% of the assemblage, and that from the 1991 report is 171, or 44.6% of the illustrated vessels (see Figure 6.1). The total number of upper parts is 535, accounting for 43.0% of the total of Iron Age pottery illustrations presented in both the reports.

6.2.1.2 Information on chronology: stratigraphy and absolute dating

The stratigraphic information is presented in the sections of the report which deal with the chronology of the site (Cunliffe 1984a: 45-6, 146-72, microfiche 6; Cunliffe and Poole 1991a: 36, 163-230, microfiches 25 to 26). Although these sections also provide the correlation between the sequences (Cunliffe 1984a: 172-3, Cunliffe and Poole 1991a: 228-30), this information does not adequately allow vessels to be arranged in relative chronological order. This is because there is little information available from the reports useful for examining vessels stratigraphically, which will be discussed in Chapter 7. One of the causes is suggested in the report: "*The chronological sequence at Danebury is complex and fraught with problems of interpretation. Because many of the features are unstratified, there has been a tendency to rely on the pottery for much of the dating*" (Brown 1995a: 59).

The information on the ceramic illustrations selected for this case study is listed in Tables 6.1 to 6.9 which provide information on the features from which the vessels were recovered. These features can be divided into three groups (see Figure 6.2). One is pits which are mainly in the inside occupation area of the hillfort and produce *some typical stratified groups* included in *Appendix 4* and the microfiches. 277 vessels consisting of upper bodies and complete profiles are available from these pits. The percentage of these vessels included in the typological classification is 51.5%. Another is constructions involved with the defence and the entrance of the hillfort and minor features, which provide 18 illustrated vessels, for example: ditches of the inner earthwork and the outer earthwork, ritual pits and postholes. These account for 3.4% of the assemblage selected for this analysis. The third group of vessels was found in a variety of types of features and layers. There are 11 vessels from this miscellaneous group, totalling only 2.1% of the selected ceramic materials. The other group is composed of vessels with little information on where they were discovered. These vessels number 229, representing 42.8% of the total ceramic assemblage for typological classification. Apart from the excavation report, the information on the stratigraphy of Iron Age vessels from this site should have been available on *The Archaeology Data Service (ADS)* (http://ads.ahds.ac.uk/), however, the information had serious mistakes such that there were no correlations between the ceramic ID numbers in the database and the numbers of ceramic illustrations in the reports (pers. comm. Lisa Brown). Although access was granted to the primary archive on pottery from Danebury, it was not possible to obtain adequate data on the correlation between the ceramics and the stratigraphy. However, the information attached to the actual sherds themselves provided part of the data for the correlation, the result of which can be found in Figure 6.3. The data on more than 90% of the features producing vessels was available. Remarkably, pits account for more than 80% of the assemblage of these features. This may be one of the reasons for difficulty in considering the relative chronological order of the vessels from these features as the majority of these pits were densely distributed in the inside occupation area of the hillfort (Cunliffe and Poole 1991a: 153-5; see Figure 6.4).

According to the site report, well-stratified deposits tended to be limited to the peripheral areas of the occupation (*ibid.*: 164; Cunliffe 1995: 8; see Figure 6.5). Therefore, it appears that the dating of these pits could not help relying on the ceramic phases, which had already been established. However, even in the inner occupation area, inter-cuts between the pits or between the pits and the other features might allow us to examine the relative chronological relationships between these features. The data on intercutting pits is available from the report (Cunliffe 1984a micro fiche 8: A5-11), but only three examples which have the vessels selected for this analysis are available: *Pit 44* cut by *Pit 28* including nine vessels; *Pit 34* cut by *Pit 33* containing two vessels; and *Pit 358* cut by *Pit 365* producing seven vessels. There are three areas of difficulty in considering the relative chronological order of these vessels. Firstly, there are various ceramic forms present and thus, it is unlikely to be able to compare these forms between the pits. Secondly, there are too few vessels to define these typological changes although changes in shoulder shape of similar types of vessels can be inferred. Thirdly, although the same types of vessels are available between the intercutting pits, specific typological changes between these vessels cannot be identified.

Information on the stratigraphic relationships between features is available from the microfiches attached to the reports (Cunliffe 1984a microfiche 6; Cunliffe and Poole 1991a microfiche 25), although it is limited to certain areas (compare Figures 6.5 and 6.6). This stratigraphic information, which is presented in both matrix diagrams of features and lists of vessels for each excavation year, allows us to identify useful features for examining the stratigraphic relationships of vessels. Table 6.10 provides a list of the features and layers where the selected vessels for this typological analysis were discovered. According to the comparison of these lists with the selected vessels, there are 65 features and layers useful for considering the stratigraphic relationship between vessels. The breakdown of these features and layers is: 29 from Volume 2 (Cunliffe 1984ab) and 36 from Volume 5 (Cunliffe and Poole 1991ab), whose stratigraphic relations are arranged in Table 6.11. However, the alphabetical phase labels are not necessarily the same between the excavation years. According to *volume 4* (Cunliffe and Poole 1991a: 228-9), the correlations between the phase labels can be represented as in Table 6.12, however, a number of these correlations are unavailable. The dates of each phase in different stratigraphic sequences are based on the data from radiocarbon dating and the ceramic chronological scheme established in the report (Cunliffe 1984a: 172). Although about 20 of the radiocarbon dates are useful for this analysis, these do not appear to be enough to construct a chronological sequence of vessels, as is discussed in detail below. This is in part because these samples are almost entirely limited to Sequence A (the 1977-78 excavations). For the ceramic framework, there appear to be serious issues with the classification method and the categorisation of vessels into the defined groups, as noted in Chapter 4. Furthermore, there is difficulty in re-examining vessels assigned into the defined groups as the ceramic illustrations and the required stratigraphic information are not necessarily presented in the reports.

In terms of the different layers within features, it could be feasible to consider changes in ceramic shape, however, it is difficult to arrange the vessels in relative chronological order. Partly, this is because there are too small a number of vessels available from any one feature. Even in features containing five or six vessels, if these are composed of a variety of types, it is difficult to identify developments in ceramic shapes. As the average number of vessels in each feature (Table 6.13) demonstrates, only a few vessels tend to be available from many features. Another reason can be identified through the comparison of vessels between layers within a feature, for example, the vessels from pits, which account for more than 80% of the total number of features selected for this analysis. The examination of the groups including more than three vessels from one pit, which exceed the average number (2.5) of vessels from one pit, displayed three different situations in these groups. In some cases, all of the vessels are from one layer within one pit such as *Pit 2110* and *Pit 2530* (see Tables 6.8, 6.9), or the difference in layers does not reflect that in time, including *Pit 813* (see Table 6.5): sherds of certain vessels (*e.g.* No. 655 from *Pit 813*) are recovered from different layers within one pit where other vessels are included. Under these conditions, it is not feasible to compare between vessels stratigraphically. In other cases, there are no specific differences between vessel shapes from different layers within each pit. For instance, the vessels from *Pit 2426* are recovered from different layers (see Table 6.8), but No. 1407 from *layer 18* and No. 1408 from *layer 5* have a similar shape, whilst No. 1405 from *layer 10* and No. 1410 from *layer 7* are also similar in shape (*cf.* Figure 6.27 in Cunliffe and Poole 1991b: 309). This does not allow vessels within each pit to be arranged in relative chronological order. Thirdly, in some cases there are a small number of vessels or too few layers to compare between these within each pit. For example, *Pit 1481* produced 14 vessels: six from *layer 1* of an upper layer and four from *layer 5* of a lower layer (see Table 6.9). These vessels from both layers consist of various types of body shape and rim shape (*cf.* Figures 6.33, 6.34 in Cunliffe and Poole 1991b: 314-5), which does not allow us to identify clear changes in these shapes between the two layers. The four vessels from other layers also do not provide useful clues for arranging these vessels in relative chronological order, because of the small number. Thus, all these cases stress that the vessels from pits cannot be readily arranged in relative chronological order, using the stratigraphic information provided.

Finally, the relationship between stratigraphy and radiocarbon dates is considered. As mentioned above, a majority of the radiocarbon dates useful for the examination of stratigraphy are available from Sequence A of the 1977-78 excavation in a number of sequences (Sequences A to J). There are 21 total radiocarbon dates, including only two samples from Sequence B of the 1973-75 excavation (Table 6.14). The radiocarbon dates from all of the samples, which were calibrated with the *OxCal version 4* programme (Bronk Ramsey 2009), are presented in Tables 6.15 and 6.16. Figure 6.7 represents the average values of the medians of radiocarbon dates in each period, and Figure 6.8 shows the distribution of the median dates of the samples. *Period C* is earliest and *Period l* is latest, and the correlation between the excavations 1977-78 and 1973-75 can be found in Table 6.12.

In terms of the latest median dates in each stratigraphic phase (see Figure 6.8), there are problems with the correlation between stratigraphy and radiocarbon dates. One of the main issues is that the absolute dates of samples in *phase i* in the 1977-78 excavation are later than those of *phases k* and *l*, which are stratigraphically above *phase i*. If this radiocarbon data from *phase i* is acceptable, a specific change in the site chronology should be assumed at *phase i* in the 1977-78 excavation, although such situation does not appear to be taken into account in the site report (Cunliffe and Poole 1991a: 231, see Table 6.12). The contradiction between the radiocarbon dates and the stratigraphy may be due to the sampling strategy or the re-deposition and incorporation of organic materials. As seen in the sample dates of *phases c*, *h*, and *k* (see Figure 6.8), there are a variety of absolute dates in each phase and frequently significant gaps between them. The biggest gap between these dates is 439 years in *phase k*, and the gap is 221 years in *phase c*, and is 362 years in *phase h*. This would lead to the situation that several stratigraphic phases contain vessels of decidedly different dates. Therefore, it is not appropriate for the vessels in such phases to be used for considering chronological order, even using both absolute dates and stratigraphic information associated with the vessels.

Volume 2 in the site reports presents the radiocarbon dates of organic materials (Cunliffe 1984a: 190-1), numbering 77: 51 wood charcoal, 9 grain, and 10 animal bones (see Tables 6.15 and 6.16). However, according to the report (*ibid.*: 190), two samples contained too little material to date and some other samples show notably late dates, hence, these samples are omitted. For the samples showing late dates, the report assumed that "*these samples have become contaminated with more recent charcoal either by the activity of roots or burrowing animals*" (*ibid.*: 190). However, if the site environment has been easily subject to such disturbance, there is a possibility of the same contamination of the other samples. As noted above, there appears to be a contradiction in absolute dates between the stratigraphic phases in Sequences A and B, where samples from within individual phases returned divergent dates. The contamination and incorporation of samples can happen in other areas, so this must be taken into consideration when dating other parts of the site, especially its occupation areas. Having discounted the contaminated samples, the number results useful for considering a chronology of Iron Age pottery is 65.

Table 6.17 shows the radiocarbon dates which accompanied the vessels selected for the typological classification (compare with Figure 6.9). The total number of samples with dates is 18, although four of these have no absolute dates. The number of these useful samples (14) is not enough to consider the chronological order of vessels, considering the number of vessels related to the contexts producing radiocarbon dates. There is another problem with these samples: there are four pairs of samples which were from the same context. While the gap in the median dates of the samples from *Pit 906 layer 7* is only 78 years, the dates from the other pits (*Pit 1089 layer 5*, *Pit 589*, *Pit 1078 layer10*) have much larger differences in the dates between the samples from the individual contexts: the differences in these dates are about 200 or 300 years. However, the calibrated date ranges in each at 95.4% confidence level partly overlap (*cf.* Tables 6.15, 6.16). As mentioned above, it is highly possible that this was caused by the potential issues of radiocarbon dating, such as residuality and incorporation of samples and irrelevant sampling, which will be discussed in the next chapter. Additionally, there is a further problem with the radiocarbon dates: the median date range of the contexts identified as the period of *cp (ceramic phase) 7* stretches from 489 BC to AD 3 (see Table 6.17). This may have been also caused by the above problems with radiocarbon dating, or could be due to the problems with the classification scheme of vessels established in the Danebury reports and with the categorisation based on this scheme, as discussed in Chapter 4. Thus, there are a number of issues with using these radiocarbon dates for constructing the chronological order of Iron Age vessels from Danebury. The data could be useful for establishing a broad chronological framework of the vessels, however, using these radiocarbon dates does not appear to be appropriate for the detailed and definite classification and chronology of the vessels as produced in the Danebury reports (Cunliffe 1984b, 1991b, 1995, 2000; see Tables 6.18, 6.19).

The dating of vessels can also rely on imports from the continent, such as coins and brooches, whose dates tend to be defined more accurately than dates of vessels by historical records and radiocarbon dating. The chronologies of British Iron Age vessels in the early studies were based on the dates of imports from the continent (*e.g.* Hawkes 1959, Hodson 1964). However, because these objects appear to have been deposited through various processes, these objects need to be carefully dealt with for dating vessels. For example, it might have taken a significantly longer time for specific imports to be distributed, used and buried, compared with vessels. Such differences in "*formation processes*" (Schiffer 1972, 1976) between imports and vessels must be taken into account.

There were a number of datable metal objects imported from the continent found at Danebury, but most of these are unlikely to be useful for considering dates of vessels.

Although the site and its surrounding area produced more than 75 Celtic coins (Cunliffe and Poole 1991b: 320), a metal detectorist discovered the majority of these near the site (Cunliffe and Poole 1991a: 21). Only four of 75 were recovered from the excavations, and only two of these four coins can be identified (Cunllife 1984b: 332). The coins with dates are not effective for examining dates of vessels as these are unable to be stratigraphically related to the vessels selected for the typological classification. The other metal objects are composed of eight brooches and a bronze ornamental disc (*ibid.*: 340-3, microfiche 9: A9; Cunliffe and Poole 1991b: 328-33, microfiche 28: A3; see Figures 6.10, 6.11; Table 6.20). No. 1.24 brooch of La Tène I type was recovered from the upper part of Ritual Pit C (*cf.* Figure 3.33 in Cunliffe 1984a: 44-5). However, only one vessel selected for the typological classification came from this pit and thus, this brooch is unlikely to be useful for dating ceramics. Additionally, there are no other assemblages appropriate for stratigraphic comparison with this pit. Another La Tène I type brooch, No. 1.89, is also not useful for ceramic dating because it was recovered from the surface. The other brooches consist of La Tène II (No. 1.90), III type (No. 1.25, 1.26, 1.27), and unknown types (No. 1.28, 1.29). The dates for each of these, and an ornamental disc, (No. 1.94) are presented in Table 6.20, covering *Period 6* and *7* in the chronological scheme of the site (*cf.* Cunliffe and Poole 1991a: 228-9; see Table 6.21). Although *Period 6* is separated into a number of sub-periods, it does not appear that there is clear correlation between these sub-periods and the dates of these brooches. Moreover, the dates of the three brooches recovered in the 1977-78 excavations are not correlated with the stratigraphic order. In other words, the stratigraphic sub-division before and after *Period 6* is unlikely to be useful for arranging vessels in chronological order, although most vessels and the stratigraphic information on these belong to this period (*cf.* Tables 6.11, 6.12). As noted above regarding the use of radiocarbon dates, there also appear to be issues with the usage of the dated objects, including these residuality, re-depoisition and incorporation.

6.2.1.3 Typological classification: analyses on morphological characteristics

There are 535 vessels for which the ratio of neck diameter to maximum diameter is available (*cf.* Tables 6.1 to 6.9). Figure 6.12 shows the distribution of the ratios of neck diameter to maximum diameter, except category ⑩. The vessels whose rim diameters are equivalent to maximum diameters number 114 or 21.2% of this assemblage, and are dealt with as category ⑩ (see Figure 6.13; Table 6.22). The ratios are distributed between 57 and 99%, where nine categories ① to ⑨ can be identified. Additionally, these categories can be broadly separated into two, based on both the gap of the values and the degree of cohesion. One group consists of the vessels in categories ① to ⑥, which have relatively narrow necks and swollen bodies. The distributions of the ratios are dispersed and spread over broad ranges, compared with those of the vessels in categories ⑦ to ⑨ (see Figure 6.12). The vessels in categories ① to ⑥ account for 8.4% of the assemblage having the ratios. Meanwhile, the ratios of the vessels in categories ⑦ to ⑨ are densely distributed in specific ranges. These vessels have relatively wide necks and non-swollen bodies, comprising 70.4% of the assemblage.

The vessels in categories ① to ⑩ are first separated by two distinct attributes: 1) surface treatment (‘Plain’ or ‘Decorative’) and 2) body shape (‘Rounded’ or ‘Inflectional’). These are sub-divided into a number of forms, according to factors such as body shape, rim shape and decoration patterns. Consequently, 226 ceramic forms in total can be produced (*cf.* Table 6.28), and the detail of these forms is presented from Figures 6.14 to 6.48 and from Tables 6.23 to 6.27.

Major forms are selected from the above established forms, considering the average number of vessels in each category: these forms have vessels of more than the average numbers in each category. This selection of the major forms simplifies the complicated process of vessel classification. According to the ceramic classification (Tables 6.23 to 6.27), each form in categories ① to ③ has only one vessel (see Table 6.28). This suggests that these are uncommon in the ceramic assemblage, therefore, these categories are first omitted for the selection of the major forms. Most of the others are composed of more than two vessels whilst those in categories ⑨ and ⑩ consist of more than three vessels.

Category ④ (Form 7, 10; *cf.* Figures 6.15, 6.16; Table 6.24)

There are varieties in the shapes of distinctive rims of the vessels in each form, which are: upstanding, out-curving, and slant outwards. Given these, the vessels in each form can be separated into two or three groups. Form 7 has different sizes, larger and smaller.

Category ⑤ (Form 5; *cf.* Figures 6.16, 6.17; Table 6.24)

There is one major form which has no specific varieties in shape. However, there are two varieties in size and rim shape in the vessels of this major form. The differences between these could be associated with those in time, or may simply show the varieties within this major form.

Category ⑥ (Form 5, 7; *cf.* Figure 6.17, 6.18; Table 6.24)

There are differences in rim shape and size of the vessels in each form. In terms of the former in Form 5, there is the difference in inclination of the rims whilst Form 7 shows the difference in length of the rims. Both forms also represent the difference in body size of the vessels within each form, larger or smaller.

Category ⑦ (Form 7; *cf.* Figure 6.18; Table 6.24)

In terms of rim shape, the differences between the vessels in Form 7 can be identified whilst these body shapes are similar. Most rims are shortly out-curving, however, the degree of these curves and the size of these rims are different from each other. The rim of No. 1101 is clearly out-curving, compared with the rims of No. 725 and 1235 which are minute. Meanwhile, the rim of No. 625 merely assumes a simple shape.

Category ⑧ (Form 5, 10, 12, 14, 16, 17; *cf.* Figures 6.19 to 6.21; Table 6.24)

In most major forms, the differences in rim shape between the vessels can be identified except Form 5. The differences are mainly the length and the inclination of the rims, and these vessels can be classified into two or three groups. There are also varieties in size of these vessels in Form 14, 16 and 17.

Category ⑩ (Form 1, 4, 5, 10, 11, 14, 15, 16, 28, 29, 30, 31; *cf.* Figures 6.21 to 6.26; Table 6.27)

Apart from Form 28 (Figure 6.23), the ceramic shapes of all the major forms are similar to each other. The difference between these major forms depends on decoration, depth (or height) and body shape. Many major forms show the differences in rim shape and inclination of body walls. Based on the differences, the vessels in these major forms can be separated into two or three groups. In terms of size, specific differences are not identifiable among the vessels in the individual major forms except Forms 1, 30 and 31.

Category ⑨ (Form 15, 35, 49, 50, 62, 65, 71, 73, 84, 85, 86, 87, 89, 93, 97, 99, 100, 101, 104, 105, 106, 108, 113, 114, 115, 121, 122, 126**;** *cf.* Figures 6.27 to 6.48; Tables 6.24 to 6.26)

Category ⑨ has most major forms which represent 53.8% (28/52) of the total of the major forms (see Table 6.29). Similarly to the categories above, there are the differences in rim shape, shoulder shape and size in a number of major forms. The differences allow the vessels in each major form to be classified into two or three groups. However, in terms of size, more variety can be identified in the major forms which are composed of a relatively large number of vessels, such as Forms 104, 106, 114, 155 and 121.

These major forms notably consist of the 'Rounded' bodies, at 94.2% of the total (49/52) (see Table 6.29). On the other hand, the 'Inflectional' bodies, showing 5.8% of the total, are extremely minor, and are contained in only category ⑨. In terms of surface treatment, the 'Plain' type, representing 73.1% of the total, are more popular than the 'Decorative' type, accounting for 26.9% of all the major forms (see Table 6.29). However, this is not equally applicable to each major form. Figure 6.49 shows the component ratios between the 'Plain' and 'Decorative' types in the individual forms. Although the number of vessels in some major forms is too few to consider the implication of these component ratios, it can be indicated that there are three groups, based on the characteristics of the ratios: 1) categories ④ to ⑦; 2) categories ⑧ and ⑨; 3) category ⑩. The first group has relatively swollen bodies and is composed of the 'Plain' type. The second group has non-swollen bodies and tends to consist of the 'Plain' type, however, about 15% of the vessels in each category are composed of the 'Decorative' type. The 'Decorative' type is dominant over the 'Plain' type only in the third group which have very wide mouths: the percentage is more than 70% of the major forms in category ⑩.

According to the differences in rim shape, shoulder shape and size, the vessels in a majority of the major forms can be typologically classified into two or three groups. These differences appear to represent the difference in chronology or in ceramic types in the same periods. The differences in rim shape and shoulder shape especially could be used to arrange the vessels in relative chronological order as these differences are similar to those identified in the ceramic assemblage from Hengistbury Head in the previous chapter. In other words, there could be specific trends in these ceramic shapes: long upstanding rims change to short curved rims; loosely curved shoulders change to strongly curved (low shoulders to high shoulders). However, in order to identify trends of this type, chronological information for the vessels is essential. As seen above, the information for considering both relative and absolute chronologies is available from the site reports, although there are some problems with the information. Thus, the next section will consider the ceramic chronologies, using the available data on stratigraphy and absolute dates.

6.2.1.4 Examinations of vessels for a chronological scheme

Table 6.11 shows the stratigraphic relationships of the features and layers producing vessels, and the ceramic illustrations are presented in Figures 6.50 to 6.54. There are 123 illustrations, which represent the vessels from eight stratigraphic sequences. The vessels from three sequences in the 1979-80, 1980 and 1982-84 excavations are omitted for this examination as these have no comparable vessels. Despite considering many vessels in this analysis, there is great difficulty in arranging the vessels in relative chronological order. This is because the vessels are separated into eight sequences and thus, there are too few vessels to chronologically arrange these in each sequence. Additionally, there are a number of varieties of ceramic forms in each sequence, which does not allow for considering typological relations between these different forms. Furthermore, there are issues with the correlations between the stratigraphic sequences (see Table 6.12), as noted above.

These issues should be taken into account when the relative chronological order of the vessels is examined. However, in terms of ceramic shapes, several characteristics can be identified through the information on the stratigraphy of the vessels. Specifically, the Iron Age vessels appear to consist of two main periods. According to the correlations between the stratigraphic sequences presented in the reports, the border between these periods is likely to be between *Periods 4* and *5*, around 350 to 300 BC (see Table 6.12).

In the earlier period, the assemblage is composed of the vessels whose rims are distinctively long, upright or lean outwards. For example, these are No. 122 from *layer 43* in 1969, No. 407 from *pit 104* in 1971, No. 409 from *pit 103* in 1971 and No. 495 from *layer 45* in 1971 (see Figure 6.50). This is also applicable to the other sequences: the 1973-75, 1977-78, 1982 and 1988 excavations (see Figures 6.51, 6.52 and 6.54).

A majority of the groupings from the later periods are constituted of the vessels having simple or minute rims (see Figures 6.50 to 6.54). However, these vessels show various types of body shapes, including the difference in the ratio of neck to maximum diameter. A minority of the vessels have relatively swollen bodies and distinct out-curving rims, for instance: No. 172 from *pit 7*; No. 62 from *pit 4* in 1971; No. 630 from *pit 834* and No. 665 from *pit 507* in 1971 (see Figures 6.50, 6.51). It also could be a characteristic of the vessels in the later period that there are a certain number of vessels which are very shallow, such as No. 646 from *layer 13* in 1971, No. 749 from *pit 1038* in 1977-78 and No. 1251 from *layer 1152* in 1984-85 (see Figures 6.50, 6.52).

The relationship between the established forms is unknown because of the small number of vessels with accompanying stratigraphic information. It is also unlikely that the specific typological changes of the vessels within the individual major forms can be identified for the same reason. In terms of two main surface types, it can be inferred that both the ‘Plain’ type and the ‘Decorative’ type existed throughout the Iron Age. For the characteristics of the ‘Decorative’ type, differences are identifiable between the earlier period and the later period although there is not a large enough number of vessels to demonstrate this. The attributes of decoration in the earlier period are composed of successive impressions at the rim top, and horizontal cordons on the body, sometimes with zigzag lines. The examples of the former are: No.407 from *pit 104* in 1971; No. 737 from *pit 1135* and No. 1316 from *layer 730* in 1982 (see Figures 6.50, 6.52), those of the latter are: Nos. 734, 735 from *pit 1135* in 1977-78 and No. 1322 from *layer 731* in 1982 (see Figure 6.52). Meanwhile, the decorative elements in the later period consist of a variety of motifs, such as dots, lines and curves, for example: Nos. 30 and 172 from *pit 7* in 1969 and Nos. 509, 526, 665 and 673 from *pit 507* in 1973-75 (see Figures 6.50, 6.51).

The radiocarbon dates related to the vessels selected for this examination also provide certain clues to the ceramic chronology although the amount of data is insufficient for this purpose (see Table 6.17). As mentioned above, three pairs of samples, from *pit 1089 layer 5*, *pit 589* and *pit 1078 layer 10*, are excluded from consideration because of the crucial differences between the median dates in each context. According to the available data, the vessels are arranged as presented in Figures 6.55 and 6.56, but it is difficult to identify the definite characteristics, typological relations and changes of the vessels because of the paucity of data. However, there are similar characteristics in the vessels to those identified directly above. The vessels can be broadly divided into two periods, the border of which is between *pit 19* and *pit 906* (see Figure 6.56). The median date between these median dates lies around 480 BC. The vessels in the earlier period have relatively long rims which are upright or lean outwards, such as the vessels from *pit 868* and *pit 906*. Meanwhile, the vessels in the later period have very short or simple rims; for instance, *pit 19*, *pit 657* and *pit 813* (see Figures 6.55, 6.56). In terms of decoration, the previous conclusions hold true: the vessels in the earlier period including No. 685 from *pit 868* have horizontal cordons on the bodies whilst those in the later period have various motifs composed of lines and curves, such as Nos. 654, 656, 658 and 966 from *pit 813* (see Figure 6.55). As for No. 698 from *pit 944* in Figure 6.55, this vessel appears to have been residual or re-deposited, considering its typological relationship to the other vessels.

6.2.1.5 Summary

According to the above examination, the Iron Age vessels from Danebury can be broadly separated into two periods (see Table 6.30). The absolute date of the border between these periods is ambiguous because of the lack of information on absolute dates and stratigraphy. However, it can be inferred to be between about 450 and 300 BC, based on the available absolute dates (*cf.* Tables 6.14, 6.17 and 6.21). This border appears to correspond to the border between the Hallstatt and the La Tène periods in continental Europe (see Figures 6.10 and 6.11). Another point to be noted is that there is much more variety in the ceramic types in the later period than those of the earlier period, in terms of shape, decoration, size and quantity. This could be due to the difference in the length of occupation at the site between these two periods. Using the median dates from the radiocarbon data (*cf.* Tables 6.14 to 6.17), if the border between these two periods is around 400 BC, the length of the earlier period would be about 200 years whilst the length of the later period should be more than 400 years. It could also be due to differences in population and pottery trade between the earlier and later periods. If the same length is allocated to these individual periods, this is a possibility. Furthermore, disturbance and re-deposition of ceramics must be taken into account. The differences in ceramic characteristics between the periods could also be due to a combination of any of these reasons. Consequently, it appears to be difficult to define the reason with the information on ceramic chronology available from the report.

In comparison with the main chronological schemes of Iron Age vessels in the Danebury region (Cunliffe1984b, 1991, 1995 *etc*.), the vessels in the earlier period consist of those in *The All Cannings Cross–Meon Hill* group (*cp 3-5*) (see Figure 6.57). The vessels in the later period are composed of those in *The St Catharine's Hill – Worthy Down* style (*cp 6-7*), *The Yarnbury – Highfield* style (*cp 6-7*) and the northern and southern *Atrebatic* types (*cp 8-9*) (see Figure 6.58). Having examined the vessels, it is not possible to replicate the process of classifying the Iron Age vessels into the stages indicated in the Danebury scheme, in terms of either relative or absolute chronology (see Table 6.18). It is also unclear how the change in ceramics came about from the earlier period to the later period. Given these issues with the main existing schemes in the Andover region, there appears to be a need for a re-consideration of these ceramic schemes using different approaches.

6.2.2 Case Study 2: *Suddern Farm*

6.2.2.1 Introduction

Suddern Farm is an enclosure surrounded by ditches, and is located on a low spur of chalk (Cunliffe and Poole 2000c: 11). During the excavation of this site, which was carried out in 1991 and 1996, parts of the ditches and the inside of the enclosure were investigated. According to the excavation report, this enclosure site was occupied from the eighth or seventh century BC to the fourth century AD (*ibid.*: 199), which means that its occupation period covers most of the Iron Age. The report contains 344 illustrations of Iron Age vessels (although some of these may be Roman) and 35 in its attached microfiches. However, the number of vessels having a perfect shape from a rim to a base is 22 in the report and 0 in the micro fiches, or 5.8% of the total number of illustrations.

6.2.2.2 Information on chronology: stratigraphy and absolute dating

All of the ceramic illustrations presented in the site report and the attached microfiches are composed of stratified assemblages, each of which was considered by the authors to have been deposited in a single period. There are 17 features which include many upper bodies of Iron Age vessels (Table 6.31), and most of these features are pits in trench 1 which is inside of the enclosure and only *F64* (Feature 64) relates to the ditch in trench 2.

According to the report, which adopted the chronological scheme of the Danebury report, (Brown 2000a: 85), the periods of the stratified assemblages extends almost through the Iron Age (Cunliffe and Poole 2000c: 46-9). The site report presents a plan of all features in trench 1 (*ibid*.: 25) and six phase plans involving the features (*ibid*.: 47-8), but there are stratigraphic inconsistencies at four spots in this trench: 1) *Group of features: P115, P158, P112*; 2) *Group of features: P221, P150/P212, P220*; 3) *Group of features: P62, P99, P98* and 4) *Group of features: F48, P210*. This issue will be discussed in detail in chapter 7. Consequently, the stratigraphic information for the features does not provide useful clues for considering the relative chronological relationships, however, a number of well-stratified vessels are available from the report. These vessels are recovered from different layers within each feature and thus, the relations of the vessels between them can be assessed (see Tables 6.32 to 6.35).

The vessels from two features (*P104* and *F64)* are useful for examining the relative chronological order, but those from the other features do not allow effective comparisons between vessels. However, the vessels from *P104* belonging to *cp 8/9* are dated from 50 BC to AD 50 (Cunliffe 1995: 18), and those from *F64* belong to the first century (pre-Flavian), which mean the period before AD 69. This suggests, based on relative chronology, that the vessels date to approximately the latest Iron Age.

P104 (Figures 6.59, 6.60; Table 6.33)

The vessels from this feature were recovered from *layers 1* to *10*, however, they can be roughly divided into three groups: the upper layer (*layer 1*), the middle layer (*layers 3 to 5*) and the lower layer (*layers 8 to 10*). The vessels are first separated into the 'Plain' type and the 'Decorative' type, of which there are five (21.7% of the total) (see Figure 6.60: right). The vessels of the 'Decorative' type are found from the middle layer and the upper layer: those from the former have minimal rims and horizontal lines on their upper bodies whilst those from the latter have long necks and distinctive rims and zigzag and wavy patterns. Thus, the characteristics of these two groups are clearly different in terms of both shape and decoration; hence there does not appear to be a typological connection between them.

The 'Plain' type can be classified into three different forms: one has a shallow body but has no neck (see Figure 6.60: left); another has a deep body and a minimal rim (see Figure 6.59: left); and the other has a deep body and a distinctive rim (see Figure 6.59: right). In terms of the first and last forms, because there are only three examples, the number is too few to understand these transitions in form. The second form has about ten vessels; however, the characteristics of these are similar to each other through the lower to the upper layer although there is one strongly high-shouldered vessel (No. 217) in the upper layer.

F64 (Figures 6.60 to 6.62; Tables 6.34, 35)

The vessels were recovered from five different layers, however, according to the excavation report (Cunliffe and Poole 2000c: 21-2), the order of the layers is *layer 4*, *5*, *2*, *3*, and *1* from the lowest layer. The vessels from this feature are first classified into the 'Plain' type and the 'Decorative' type although the quantity of the 'Decorative' type is small (see Figure 6.62: below). The vessels of the 'Decorative' type can be divided into roughly three forms: one has a shallow body but has no neck (see Figure 6.62: left); another has a straight upper body (see Figure 6.62: No. 532); and the other has a deep body and a minute rim (Figure 6.62: right). The vessels of the first form are from *layers 1* and *2*, and it can be conjectured that these rims changed from 'upright' (No. 546) to 'slant' (No. 508) although there are only 4 vessels. The second form includes only one vessel (No. 532) from *layer 2* which is useless for considering the change in ceramic types. The vessels of the last form were recovered from *layers 1*, *3* and *5*, however, there is no specific difference in shape although they assume different decoration patterns. It is important to note that No. 503 (see Figure 6.62) from the upper layer has a somewhat high-shoulder and a minimal rim, which seems to be the general trend in ceramic shape in the later Iron Age, as identified in the above case studies.

The 'Plain' type can be classified into at least six different forms: the first, a shallow body but no neck (see Figure 6.60: below); the second, a long neck, a distinctive rim and a high-shoulder (see Figure 6.61: below: No. 531); the third, a straight upper body (see Figure 6.61: below: No. 550); the forth, a distinctive neck and rim and a round upper body (see Figure 6.61: No. 530); the fifth, a distinctive rim (see Figure 6.61: left: No. 525, 527, 528, 529) and the sixth, a minute rim and a variety of upper body forms (see Figures 6.61 and 6.62: above). The sixth form, which is the most common, was found from the upper to lower layers, but the differences in these layers do not readily allow comparison between the vessels. For example, there is similarity between No. 564 (see Figure 6.62) from *layer 4* and No. 504 (see Figure 6.61) from *layer 1* and between No. 565 (see Figure 6.62) from *layer 4* and No. 557 (see Figure 6.61) from *layer 3*, even though the layers in each pair are clearly separate from each other. In other words, it is highly possible that the vessels from this feature roughly belong to the same period. Consequently, it is difficult to define the specific transitions of the ceramic types from Suddern Farm only by use of the stratigraphic information although it is possible in a few cases.

6.2.2.3 Typological classification: Analyses on morphological characteristics

The first analysis of the ceramic classification is to divide the 227 vessels by the ratio of neck diameter to maximum diameter,. A ratio of more than 100% means that rim diameters are equivalent to maximum diameters and that neck diameters are larger than body maximum diameters. This group, numbering 55 vessels (or 24.2% of the total) is dealt with as category ④.

Figure 6.63 shows the distribution of the ratios. Firstly, the results show that the ratios, excluding those of category ④, lie between 40 and 100%. Secondly, the distribution can be divided into three categories ① to ③, based on the gaps in the series of the values. Thirdly, the ratios could be broadly separated into two groups: categories ① and ②, and category ③. The former group, which is composed of vessels with relatively narrow necks and very swollen bodies, includes a small number of vessels. In particular, two vessels of category ① (Nos. 381, 310) are notable as the distribution of the ratios of neck to maximum diameters shows (see Figure 6.63). There are 10 of this type of vessel, or 4.4% of the total of the assemblage. On the other hand category ③, which is constituted of vessels having relatively wide necks and non-swollen bodies, makes up the majority of the assemblage. This group consists of 192 vessels, or 84.6% of the total assemblage.

The vessels in categories ①, ② and ③ can be first classified, based on the surface treatment ('Plain' or 'Decorative') and body shape ('Rounded' or 'Inflectional'). The sub-division of the classified vessels is based on these visual factors including shapes of rims and bodies and decoration patterns. The sub-divided types of the vessels are presented from Figures 6.64 to 6.76 and in Tables 6.36 and 6.37.

Based on this classification of the vessels, the main forms are selected to simplify the process. There are six forms in categories ① and ②, 15 forms in category ④ and 34 forms in category ③. However, some of these forms consist of only one vessel, such as Form 6 of category ② (see Figure 6.64) and Form 32 of category ③ (see Figure 6.76). These forms can be regarded as the minority and thus are omitted when considering the characteristics of the ceramic assemblage from the site.

The rest of the forms are composed of more than two vessels. The total number of vessels in each category and the number of ceramic forms are shown in Table 6.38, including the average number of vessels in each category: categories ① and ②, 2.3; category ④, 6 and category ③, 6.1. According to this, the major forms are selected: three forms in categories ① and ②; three forms in category ④ and nine forms in category ③ (see Figures 6.77, 6.78; Table 6.39).

Categories ① and ② (Figure 6.77: above)

This group consists of the 'Plain' types (Forms 1 and 2) and the 'Decorative' types (form 4). In terms of body shape, all of the vessels have 'Rounded' bodies. However, it is uncertain if this characteristic can be generalized because of the small number of vessels. There are also two different types of rim forms: a minute rim (Forms 1 and 4) and a relatively long and out-curving rim (Form 2). It is also unknown if the difference between these reflects the difference in time. In terms of relative chronological order, the vessels in each form can not be separated into stages because of the similarity between them. The percentage of the major forms in categories ① and ② to the assemblage is 4%. It is clear that these categories are minority groups in the Iron Age vessels from Suddern Farm.

Category ④ (Figure 6.77: middle)

There are two types of appearance: the 'Plain' type (Forms 3 and 9) and the 'Decorative' type (Form 11). Two types of body shape constitute the major forms: the 'Rounded' body (Form 3) and the 'Inflectional' bodies (forms 9 and 11). Forms 9 and 11 of the 'Inflectional' body types have a close relation to each other for three reasons. First, in addition to the element of the 'Inflectional' body, these entire body shapes are similar to each other, whilst there are same variations in these rim shapes. Secondly, there are two sizes, large and small, in each form. Thirdly, both forms consist of a large number of the vessels in both category ④ and the whole assemblage of major forms (Table 6.39). In terms of relative chronological order, there appear to be two or three stages, based on the degree of rim angles, although these show inconspicuous and gradual changes. The percentage of category ④ in the assemblage of major forms is 19%.

Category ③ (Figure 6.77: below and Figure 6.78)

Most of the forms are composed of the 'Plain' type whilst the 'Decorative' type has only Form 34 (see Table 6.39). In terms of body shape, all of the major forms have 'Rounded' bodies although there is a variety of shapes, especially the shape of Form 13 which is markedly vertical (see Figure 6.78). The rim of Form 1 has an out-curving and long rim, whereas the other rims are small and minimal (see Figure 6.77). According to the above classification (see Figures 6.67 to 6.76), there are two sizes in each form apart from Form 12 (see Figure 6.77). Form 20 (see Figure 6.78) is composed of many vessels in both category ③ and the assemblage of major forms, followed by Forms 3, 17 and 13, which account for high proportions (see Table 6.39). The vessels in each form can be chronologically separated into two or three stages, based on the rim shapes and the upper body shapes with gradual changes. The percentage of category ③ to the assemblage of major forms is 77%, constituting the majority of the assemblage.

6.2.2.4 Summary

The above analysis produced 15 major forms within the assemblage and revealed that category ③ was most common in both variety and quantity (see Table 6.39). In terms of ceramic shape in this category, the attributes of loosely-curved upper bodies and small or minimal rims can be identified as the notable characteristics. For ceramic chronologies, many of the major forms can be divided into two or three stages, based on the difference in morphological characteristics such as the rim shape, rim size and upper body shape. However, it is difficult to identify the order of the stages in time and the absolute dates of these because of the lack of useful information in the site report. It is important to note that there are few 'Decorative' types in both variety and amount, in other words, the majority of the vessels were of the 'Plain' types although Form 11 (see Figure 6.66) has more vessels showing a high proportion in category ④ (Table 6.39).

6.2.3 Case Study 3: *Houghton Down*

6.2.3.1 Introduction

Houghton Down was "*a ditched enclosure of oval plan measuring 200 m north-south by 120 m east-west stretching from the crest of the hill, at c.100 m OD, down the gentle north-facing slope to c.95 m OD*" (Cunliffe and Poole 2000e: 11). The excavations of the site, undertaken in 1994 and 1997, (*ibid.*) produced a large quantity of vessels and revealed a variety of features, including pits, ditches and quarries from the Early Iron Age to the Roman period. 219 illustrations of Iron Age and early Roman vessels are presented in the excavation report and these are all from stratified assemblages, including nine complete profiles. In terms of upper parts of vessels for the typological classification, 72 vessels, or 32.9% of the assemblage, are available from the report.

6.2.3.2 Information on chronology: stratigraphy and absolute dating

The excavation report presented the information on stratigraphy with plans and sections of features, however, there is little information on the stratigraphic relations between the features where the vessels selected for typological classification were recovered. This affects the establishment of a relative chronological order for the vessels.

The different layers within features could be useful for defining the typological developments of the vessels (see Tables 6.40). However, attempting comparison between vessels from different layers within features often shows the difficulty in identifying typological changes. One of the reasons for this is that there are a too small number of vessels available from any one feature. Each feature produced various types of vessels in many cases and as many vessels as possible are needed for the typological examination. Nevertheless, fewer than five or six vessels are available from a number of the selected features. Another reason is that the number of the different layers containing the selected vessels within a feature is too small to compare between them. For instance, there are 12 vessels from *F241* (see Table 6.40). Although these are available from four groups of layers, the number of the vessels from *layers 1*, *3* and *5* is only one each. This does not allow for comparing the vessels stratigraphically. Furthermore, eight vessels are available from *F227* for the typological classification (see. Table 6.40), but all of these vessels were recovered from the same layer (*layer 1*), meaning that a comparison between the vessels is not possible. In some cases the differences between the similar types of vessels from different layers within one feature can not be clearly identified, or there are few similar forms from different layers to be compared. For instance, six of the vessels from *P321* included in the typological classification were recovered from three different groups of layers: *layers 3*, *4* and *5* to *9* (see Table 6.40). However, there is no clear difference between the similar forms from different layers, such as No. 57 from the upper layer (*layer 3*) and No. 67 from the lower layer (*layer 9*) (see Figure 6.81). Moreover, the other vessels consist of different types of forms, which does not allow these vessels to be compared with each other.

Two examples of comparable vessels are presented in Table 6.41. These examples are too few to define the specific characteristics of the ceramic typological transformations; however, two points can be gleaned: 1) strongly slanting outwards rims become relatively upright and 2) vertical bodies change to slant inwards bodies. For instance, the former point might be applied to the change in the vessels of Form 10 (see Figure 6.83) whilst the latter point could refer to the change of the vessel forms of Form 12 (see Figure 6.84).

Further examples would be required to define the precise trends in the ceramic typological transformations.

There are no absolute dates provided in the report. However, as Houghton Down is located near Danebury in Andover (see. Figure 3.8), the Danebury scheme (Cunliffe 1984b; Cunliffe and Poole 1991b) was applied to the vessels presented in the report for understanding of these dates. Although the Danebury scheme was improved in the Danebury Environs Programme report (Cunliffe and Poole 2000a), absolute dates have not been added to produce a revised scheme since 1984. There also appear to be issues with the scheme to be re-examined, as discussed in Chapter 4. Therefore, it appears that dating of the vessels from Houghton Down needs to be re-considered.

6.2.3.3 Typological classification: Analyses on morphological characteristics

The ratios of neck diameter to maximum diameter of the vessels numbers 72 in total (see Table 6.40; Figure 6.79). The vessels having wide-open mouths and non-swollen bodies cannot be represented as a ratio as the rim diameter is larger than the neck diameter which is larger than the maximum body diameter. In other words, the rim diameters of these vessels are the maximum diameters even if these have no necks. Such vessels are classified as category ④ in which there are 13 vessels representing 18.1% of the total (Figure 6.81). Figure 6.79 shows the distribution of the ratios of neck diameters to maximum diameters, except those of category ④. These ratios are between 69 and 99%, where there are three categories ① to ③, based on the gaps in the series of values. The vessels of category ①, which have relatively narrow necks and swollen bodies, are notably the minority in the assemblage as these vessels represent only 2.8% of the total (Figure 6.80). Meanwhile, category ③, composed of vessels with relatively wide necks and non-swollen bodies, accounts for 72.2% of the assemblage. Category ② appears to have a close relation with category ③, considering the sequence of ratio distribution. If the number of ceramic materials were to increase, category ② could be grouped into category ③. Category ② has five vessels which is equivalent to 6.9% of the total.

The vessels from categories ① to ④ are separated into the 'Plain' and 'Decorative' types, and they are further divided into two types of body shape, 'Rounded' and 'Inflectional'. According to these main classifications, these vessels are sub-divided, using attributes such as upper body shape, rim shape and decoration. This typological classification produced 31 ceramic forms in total, presented in Table 6.42.

Major forms are statistically selected from the forms established above, using the average numbers of vessels in each category. These numbers and the list of the number of the major forms are shown in Table 6.44. However, for categories ① and ②, each form has only one vessel although these have several forms. Thus, these vessels are not regarded as the major forms of the assemblage because of the small number of vessels.

Category ③ (Figures 6.82 to 6.85; Tables 6.42)

All the forms show a difference in shoulder shape and rim shape. They are similar to each other, however, in terms of non-swollen profile and plain surface. Although the typological relations between the major forms are unclear, Forms 9 and 10 have similar varieties in rim shape: distinctive upstanding rims and small or minute rims (see Figures 6.82, 6.83). Forms 12 and 13 also appear to have the same variations in shape as each other (see Figure 6.84), which are two types of body wall, vertical and slant inwards bodies. According to these varieties in the ceramic shapes, the vessels in most of the major forms can be separated into two or three groups.

Category ④ (Figure 6.81; Table 6.42)

Form 2 is the only major form in category ④, whilst there are three minor forms. The upper bodies of the vessels are relatively vertical and deep, but slant outwards somewhat. Although these rims have minor variations, these are similarly simple or minute. The size and depth of the vessels also show these varieties, however, it is difficult to define specific distinctions between the available materials. In other words, all the vessels in Form 2 are likely to have belonged to a certain period, or to have been made by one particular group of potters.

6.2.3.4 Summary

All of the major forms consist of the 'Plain' types and the 'Rounded' bodies (see Table 6.45). There are vessels of various sizes and depths in each category, however, it is unlikely that a typological division on these factors is feasible because of the limited number of ceramic materials. In terms of shape in category ③, the variety in certain forms can be classified into two groups: vertical and inclined inwards bodies, or distinctive upstanding rims and small or minute rims (see Table 6.41). This appears to reflect a difference in time or types, but it is not feasible to define what the difference means due to the lack of chronological information. Form 2 in category ④ may have a typological connection with Forms 12, 13 and 14, given these vertical bodies and simple or minute rims.

6.2.4 Case Study 4: *Woolbury*

6.2.4.1 Introduction

The Woolbury hillfort is situated "*on an elongated ridge of chalk downland 2 km the river Test*", at an altitude of 158 metres (Cunliffe and Poole 2000a: 9). The excavation in 1989 revealed that the Iron Age site had been surrounded a ditch and rampart which has been ploughed out and a number of features such as pits and postholes (*ibid.*: 18-39). According to the excavation report, the site was intermittently used from the Late Bronze Age through the Roman period. There are 101 illustrations of Iron Age vessels as stratified assemblages in the site report although these include a small number of early Roman vessels. There are only two vessels shown in perfect profile, or 4.4% of the total; however, there are 36 upper bodies representing 35.6% of the total illustrations.

6.2.4.2 Information on chronology: stratigraphy and absolute dating

There is very little stratigraphic information useful for establishing relative chronological orders of vessels. Although the report presents stratified assemblages of vessels from specific features, the stratigraphic relationships between these features are uncertain. There are well-stratified features, such as *F1* (ditch) and *Enclosure 1* (see Table 6.46), described in the report, but the stratigraphic information within these features is not adequate for chronologically arranging vessels.

There are no absolute dates included in the report. The chronological phases presented in the report are based on the ceramic scheme devised in the *Danebury Environs Programme* report (Brown 2000a). In other words, the information on absolute dates of vessels from Woolbury is only indirectly available from the material on Danebury (Cunliffe 1984ab). This approach appears to contain serious issues, as noted above.

6.2.4.3 Typological classification: Analyses on morphological characteristics

There are 36 vessels for which we have a ratio of neck diameter to maximum diameter. However, there are 10 vessels with wide opened mouths and non-swollen bodies, which make up 27.8% of the total. These are dealt with as category ③. Figure 6.86 illustrates the distribution of the ratios of neck diameter to maximum diameter for the rest of the assemblage. Firstly, this figure shows that the ratios are distributed between 47 and 100%. Secondly, the distribution can be divided into two categories, ① and ②, based on the gaps in the series of values. There are relatively few vessels in category ①, which have relatively narrow necks and swollen bodies. On the other hand, those of category ②, with relatively wide necks and non-swollen bodies, are common: the percentage of these vessels in the assemblage is 63.9%.

The vessels from categories ① to ③ are first classified into two surface types of 'Plain' or 'Decorative' and the two types of body shape, 'Rounded' or 'Inflectional'. The vessels based on this classification are sub-divided into a number of groups, using ceramic shape, size and decoration. The details of the classified vessels are presented in Figures 6.87 to 6.88 and Tables 6.47.

Main forms are selected from the above established forms, based on the average numbers of the vessels in each category (see Table 6.48). There are three forms each in both categories ③ and ② and no major forms are available from category ①.

Category ③ (Figure 6.87)

There are three major forms, two of which (Forms 1 and 2) are the ‘Plain’ types and one of which (Form 7) is the ‘Decorative’ type. These ‘Plain’ types have simple wide-open rims without necks. Form 1 is generally smaller than Form 2. For the body shape of these, Form 1 is ‘Inflectional’ whilst Form 2 is ‘Rounded’. The ‘Decorative’ type has a vertical body and appears to be deeper than these ‘Plain’ types. All these major forms consist of the same types in each form. The percentage of the major forms in category ③ in the assemblage is 50%.

Category ② (Figure 6.88)

All the three major forms (Forms 3, 5 and 6) have the ‘Plain’ type and the ‘Rounded’ body type. Forms 3 and 6 have similar body shapes, especially in that the maximum diameters lie on the upper parts of the bodies of the vessels. Meanwhile, the maximum diameters of the Form 5 vessels are situated on the middle of their bodies. Additionally, these vessels have other different characteristics from Forms 3 and 6, having vertical bodies and simple rims without necks. In terms of the number of vessels, Form 3 is remarkable as it is the most common amongst the three major forms. The Form 3 vessels can be separated into two or three groups, based on differences in upper body and rim shapes. The major forms of category ② account for 50% of the total.

6.2.4.4 Summary

The majority of the major forms are composed of the ‘Plain’ types and the ‘Rounded’ body type. These vessels also tend to have small or simple rims. There is a wide spectrum of sizes, which doesn’t allow for clearly defined groups. Most of the major forms consist of one type of vessel, apart from Form 3 of category ②. This form is also most common in the major forms, in terms of the quantity of vessels. The Form 3 vessels can be typologically separated into two or three groups. Although this difference appears to represent a difference in time or in ceramic types, there are no specific clues to identify which is appropriate. There are also difficulties in considering the chronology of the major forms and these vessels due to a lack of information.

6.2.5 Case Study 5: *Nettlebank Copse*

6.2.5.1 Introduction

Nettlebank Copse was a small settlement in the earlier Iron Age, and was replaced by a banjo-shaped enclosure in the later Iron Age (Cunliffe and Poole 2000d: 48-51). This site is located "*on the north slope of a low spur at the head of a long, and now dry, valley which eventually leads to the River Test*" (*ibid.*: 9; see Figure 3.8). The excavation of this site, undertaken in 1993, produced vessels from the occupation area and the ditched enclosure, and unveiled various structural features of the settlement, such as pits, post-holes and gullies. According to the excavation report, this site was mainly occupied from the Early Iron Age to the Roman period. There are 441 illustrations of Iron Age and early Roman vessels from stratified contexts presented in the site report. However, these include only three complete profiles whilst the upper bodies of vessels number 174, or 39.5% of the ceramic assemblage in the report.

6.2.5.2 Information on chronology: stratigraphy and absolute dating

There is limited information about the stratigraphic relationship between features in the excavation report. Although the plans and sections of features are presented, there is little information for establishing the chronological sequences of vessels. In terms of the difference in layers within features, there is information on stratigraphy which could be helpful for examining the changes in ceramic types (see Tables 6.49 to 6.51). However, it is difficult to arrange the vessels in relative chronological order in many cases. This is broadly due to three problems. Firstly, there are only a small number of vessels found in each feature. Setting aside the cases where there are only one or two vessels per feature, where there are five or six vessels composed of a variety of types, it is difficult to identify the development of ceramic forms. Secondly, the vessels were often recovered from very few different layers within a feature. For example, five vessels can be selected for the typological classification from *P244*, but only one vessel is from *layer 1* and the rest of the vessels are from *layer 2* (see Table 6.50), which does not allow comparison of vessel types stratigraphically. Thirdly, there are no specific differences between the similar typed vessels from different layers within a feature. There are 10 vessels selected from *F148/12* for typological classification, which were recovered from three different layers: *layers 1, 2/3* and *5* (see Table 6.50), however, there are no distinct changes in the similar ceramic types between these different layers. Furthermore, as the other ceramic types are composed of various types, comparison between these is not possible.

Despite these difficult circumstances, there are several examples of comparable vessels recovered from different layers within a feature (see Table 6.52). Form ⑤-13 and ⑤-14 display the same direction of change in ceramic shape from non-swollen to swollen bodies, based on their stratigraphic situations (see Figures 6.94, 6.95). On the other hand, Forms

⑤-18 and ⑤-19 show the opposite development in the rim shapes each other (see 6.96, 6.97). These circumstances suggest that the difference in layers may reflect the difference in ceramic date in certain cases, but not in other cases. The excavation report regarded the vessels from each feature as stratified assemblages, therefore, the authors appear to have believed that the vessels from each feature had been deposited almost in the same period, even though they were recovered from different layers. Consequently, few examples for comparing the vessels stratigraphically are available from the ceramic data and thus, it is difficult to define the relative chronology of vessels.

Absolute dates are not available from the site report. As with the case studies explored above, the dating of the vessels appears to be based on the ceramic scheme produced in the *Danebury Environs Programme* report (Brown 2000a).

6.2.5.3 Typological classification: Analyses on morphological characteristics

There are 174 vessels for which a ratio of neck diameter to maximum diameter can be measured (see Tables 6.49 to 6.51, 6.53; Figure 6.89). 17 vessels, or 10.3% of the total, could not provide this ratio and these vessels with wide-open mouths and non-swollen bodies are dealt with as category ⑦ (see Figure 6.90). Figure 6.89 shows the distribution of the ratios, except those in category ⑦. These are distributed between 33 and 98% and can be separated into six categories ① to ⑥, according to the value gaps. The vessels in categories ① to ④ have relatively narrow necks and swollen bodies, and equal 6.3% of the total assemblage. Categories ⑤ and ⑥ consist of vessels with relatively wide necks and non-swollen bodies, and account for 83.3% of the total (see Figure 6.89).

The vessels from categories ① to ⑦ are first classified in two groups, 'Plain' and 'Decorative', followed by the classification based on the difference in the types of body shape, 'Rounded' or 'Inflectional'. A further sub-division of the classified vessels was made, using other visual factors, which produced 46 forms in total. The detail of the classification can be found in Tables 6.54 to 6.55.

According to the classification (Tables 6.54), categories ①, ②, ③ and ⑥ each contain only one vessel, which means that these are uncommon forms in the ceramic assemblage, and thus, these forms are omitted for the selection of the major forms. The rest of these categories are composed of more than three vessels. The average numbers of the vessels in each category provides the major forms (see Table 6.56).

Category ④ (Figure 6.91; Table 6.54)

Forms 2 and 3 have different characteristics in shoulder shape from each other whilst, in terms of rim shape, profile and plain surface, these are similar to each other. Although the typological relation between these forms is unclear because of the lack of chronological information, the shapes are similar: where the shoulders are relatively high and bodies are swollen, the rims are minute (Nos. 139, 242, 95), meanwhile, where the shoulders are relatively low and bodies are less swollen, the rims are short, but distinctive (Nos. 406, 314). Based on these morphological characteristics, the vessels of both categories can be divided into three or four groups.

Category ⑤ (Figures 6.92 to 6.98; Tables 6.54, 6.55)

All the major forms consist of the 'Rounded' shape and have no decoration apart from Form 20, however, these have various shapes, sizes and depths. The two types of rim shape include vessels whose rims are relatively long, and are curving or straight outwards (Forms 10, 11, 12, 20) and vessels whose rims are short or minute and are basically upstanding

(Forms 13, 14, 15, 18, 19). All the major forms can be classified into a few stages within each form, based on the difference in shape or size of rims and in body shape.

Category ⑦ (Figures 6.91, 6.92; Table 6.55)

There are various types in the major forms of this category. In terms of body shape, Form 6 is remarkable because the ceramic bodies in this form are relatively vertical and deep unlike the other major forms whose bodies are inclined and shallow. However, the body of Form 9 is also different from the others as it belongs to the 'Inflectional' body type. Additionally, Form 2 is a specific type in terms of having decoration. As all the vessels in each major form have the same characteristics as each other, it is unlikely that these can be clearly separated into groups. In other words, it can be posited that these vessels in each major form belong to one period, or were manufactured by a specific group of potters.

6.2.5.4 Summary

The major forms are composed of the 'Plain' type (85.7%) and the 'Rounded' body type (92.9%) (see Table 6.57), however, there are a variety of sizes and depths in each category. In terms of rim shape in category ⑤, the varieties can be broadly separated into two groups: 1) longer and stretching outwards and 2) shorter and somewhat upstanding. Most of the major forms can be classified into two or three groupings, based on the difference in rim shape and shoulder shape. In order to define the implication of these, such as the differences in time or in ceramic types, adequate chronological information is required.

6.2.6 Case Study 6: *Bury Hill*

6.2.6.1 Introduction

The Bury Hill hillfort is located "*on the summit of a low hill rising to a maximum of 100 meters OD commanding the confluence of the valleys of the rivers Anna and Anton*" (Cunliffe and Poole 2000b: 9). The initial excavation of this site, undertaken in 1939 (*ibid.*: 13-7), revealed two enclosures composed of ramparts and ditches. The recent excavation in 1990 investigated parts of these enclosures and the outer and inner areas of the main enclosure, unearthing various features concerning the settlement structures, such as gullies, pits and postholes (*ibid.*: 14-36). The site report suggests that this site was mainly occupied at the end of the Middle Iron Age, after the late second to early first century BC. There are 78 illustrations of Iron Age vessels from the stratified sequences and features presented in the report although these include no complete profiles. In terms of upper body, 33 vessels are available from these illustrations, or 42.3% of the total.

6.2.6.2 Information on chronology: stratigraphy and absolute dating

Little useful information on stratigraphy is available from the excavation report. There is a well-stratified sequence (*Pit 24*) including a number of vessels from different layers (see Table 6.58) which appear to belong to the same period because of the similarities between them. The report regards these as coming from the same period: *cp 7* in the Danebury scheme (Cunliffe 1984b; Brown 2000a). The differences between layers within the features are not useful because we lack adequate numbers of ceramics to develop a classification. In terms of vessels from individual features, the stratigraphic relationships between these are unknown.

This site report also relies on the ceramic scheme presented in *Danebury Environs Programme* report (Brown 2000a) for considering the chronology of the vessels. There is little data on absolute dates of the materials presented in the report.

6.2.6.3 Typological classification: Analyses on morphological characteristics

There are 33 ratios of neck diameter to maximum diameter. 14 vessels are without the ratio, which make up 42.4% of the assemblage, are considered as category ③. The distribution of the ratios (see Figure 6.99) except those of category ③ lie between 72 and 100% and can be separated into two categories, ① and ②. The vessels of category ①, which have relatively narrow necks and swollen bodies, comprise 24.2% of the total, whilst those of category ② consist of vessels with relatively wide necks and non-swollen bodies, and account for 33.3% of the assemblage.

Based on the two broad classifications, surface ('Plain' or 'Decorative') and body shape ('Rounded' or 'Inflectional'), all the vessels are sub-divided to define these forms. The result of this classification is presented in Table 6.59.

The above classification produces three forms in category ①, two forms in category ② and three forms in category ③. However, the forms composed of only one vessel were first eliminated from the selection of the major forms. The other forms are constituted of more than two vessels. The average numbers of the vessels in each category (see Table 6.60) allow the identification of one major form from each in category ①, ② and ③.

Category ① (Figure 6.100)

The vessels of Form 2 have loosely curved bodies and minute or simple rims. This form belongs to the ‘Plain’ type and the ‘Rounded’ body type. There is no specific difference in size between these vessels, however, these can be classified into two groups, based on the difference in rim shape: minimal or simple. Form 2 makes up 26% of the assemblage of the major forms.

Category ② (Figure 6.100)

The major form (Form 4) consists of the vessels having vertical convex bodies and minimal or simple rims. They are of the ‘Plain’ type and the ‘Rounded’ body type. There are approximately two sizes in this form: smaller and larger. These vessels are separated into two groups based on the differences in rim shape and body shape. The vessels in Form 4 account for 34.8% of all the major forms.

Category ③ (Figure 6.101)

The vessels of Form 1 have vertical and outward slanting bodies with minimal or simple rims. This form consists of the ‘Plain’ type and the ‘Rounded’ body type with a variety of size, both large and small. The vessels can be classified into two groups, based on the degree of body inclination.

6.2.6.4 Summary

All of the major forms consist of the ‘Plain’ type and the ‘Rounded’ body type. The vessels in these forms tend to have small or simple rims and are likely to have somewhat vertical bodies. In other words, these vessels share a number of similar typological characteristics. There are a variety of sizes in these vessels, broadly divided into small and large vessels. The percentages of each major form are comparable to each other. All the forms can be typologically classified into two or three groups although it is uncertain if the difference between these groups represent the difference in time or in ceramic types because of the lack of the information on chronology.

6.2.7 Case Study 7: *Balksbury Camp*

6.2.7.1 Introduction

Balksbury Camp is located "*on a low spur at the junction of the Rivers Anton and Anna*', at an altitude of 91 metres (Wainwright and Davies 1995: 1). The excavations of this site, carried out between 1973 and 1981, identified a uni-vallate enclosure with accompanying pits, postholes and ditches (*ibid.*: 10-23). It is suggested in the report that this site was used from about 1,100 BC to the Roman period, covering the whole Iron Age (*ibid.*: 108-9).

The excavation report presents key groups of Iron Age vessels and includes 90 illustrations with a small number of early Roman vessels. There are only 4 vessels with a complete profile from rim to base in these illustrations, equalling 4.4% of the total. Meanwhile, the illustrations of upper parts number 46 representing 51.1% of the assemblage, and the others are sherds.

6.2.7.2 Information on chronology: stratigraphy and absolute dating

Useful information on stratigraphy for the relative chronology of the pottery is not available from the site report; the stratigraphic relations between the key groups are unknown. The chronological phases presented in the report appear to be based on existing chronological schemes of Iron Age vessels in central-southern Britain, especially the Danebury scheme (Wainwright and Davies 1995: 108).

Radiocarbon dates from an antler and some charcoal are included in the report (*ibid.*: 104; Table 6.61). However, four samples are too few to consider the chronological relationships between features. Additionally, the data includes no samples related to the vessels of the key groups. Another possible dating method is a metal object comparable with the vessels selected for this analysis. According to the report (*ibid.*: 32), there is a brooch of the "*Hod Hill type*" recovered from *Pit 187,* which is regarded as a product of the mid-first century AD. Although three vessels were found in this pit, the quantity of both artefact types is inadequate for dating these vessels. Thus, the absolute dates presented in the report are not useful for constructing a ceramic chronology.

6.2.7.3 Typological classification: Analyses on morphological characteristics

There are 46 ratios of neck diameter to maximum diameter that can be gleaned from this report (see Figure 6.102; Table 6.62). There are only four vessels without ratios, which make up 8.7% of the total and are dealt with as category ④. The ratios are distributed between 52 and 100% and the value gaps in the ratio values separate them into three categories, ① to ③. These ratios could be further grouped into category ① and categories ② and ③. The vessel in the former group has a relatively narrow neck and swollen body, and is in the minority in the ceramic assemblage. The latter group mostly consists of vessels with relatively wide necks and non-swollen bodies, accounting for 89.1% of the total.

Further sub-divisions of the vessels from categories ① to ④ are made following the broad classifications, 'Plain' or 'Decorative' and 'Rounded' or 'Inflectional'. Table 6.63 shows the result of this typological classification of the vessels.

The above classification produced one form in category ①, six forms in category ②, 14 forms in category ③ and three forms in category ④. According to the average numbers of vessels in each category (see Table 6.64), there are two major forms in category ②, one major form in category ④ and five major forms in category ③.

Category ② (Figure 6.103)

Both major forms in this category are 'Plain' types and have small or minimal rims. In terms of size, Form 4 is larger than Form 5. Another difference between these is the degree of body swell: Form 4 is more swollen than Form 5. The vessels in both forms can be classified into two groups, based on the difference in rim size. The major forms in category ② account for 14.3% of the assemblage.

Category ④ (Figure 6.103)

There is one major form (Form 3), which has straight, but outwards slanting bodies and minimal rims. There are a variety of decorative motifs on the outside surface. The percentage of these vessels to the assemblage of the major forms is 7.1%.

Category ③ (Figures 6.104 to 6.106)

All the major forms (Form 1, 2, 3, 5, 6) belong to the 'Plain' type, and most of these have characteristically small rims. However, the vessels in Form 6 have long and curved outwards rims. There are various body shapes and sizes in these major forms. The vessels can be separated into two or three groups in most of these forms, based on the difference in upper body shapes and rim shapes. The major forms in category ③ account for 78.6% of the assemblage of the major forms.

6.2.7.4 Summary

All of the major forms are composed of the 'Plain' type and the 'Rounded' bodies. Another remarkable point is that category ③ with small rims account for the majority of the ceramic assemblage. The variety in size depends on the major forms. Most of the major forms have two or three types which show the difference in various morphological characteristics. However, there is the difficulty in considering the ceramic chronologies as little useful information is available from the site report.

6.2.8 Case Study 8: *Old Down Farm*

6.2.8.1 Introduction

Old Down Farm is situated on a chalk land "*above a tributary of the River Anton*", at an altitude of 74 metres (Davies 1981: 81). The excavations, carried out between 1974 and 1977, clarified that this Iron Age site had been a sub-rectangular ditched enclosure, with accompanying pits, postholes, buildings and ditches (*ibid.*: 81). According to the site report, the site was occupied from about the eighth century BC to the early Roman period (*ibid.*: 83). The report presents 136 illustrations of Iron Age vessels, including a small number of early Roman vessels. However, the vessels in complete profile make up only 15 of the illustrations, which account for 11% of the total, whilst there are illustrations of 63 upper bodies, representing 45.6% of the whole.

6.2.8.2 Information on chronology: stratigraphy and absolute dating

As in the previous case studies, there is little stratigraphic information available from the excavation report. The chronological phases presented in the report seem to be based on existing chronological frameworks of Iron Age pottery. This is because the report refers to the studies concerning these schemes for the explanation of the Iron Age pottery in the individual phases (Davies 1981).

Four dates from the radiocarbon dating of bone are included in the report (*ibid.*: 144; see Table 6.66), however, this is not a large enough number of samples to be useful in considering chronological questions. Another issue is that the presented dates overlap each other, which suggests these dates are not useful for constructing a chronology of vessels. There is a further issue with the relationship between the data and the archaeological phases. According to the chronological scheme of the vessels presented in the site report (*ibid.*: 83), *Phase 2* is about the 8th century BC, and *Phase 3* is around the 7th century BC, but these dates don't match with the results of the radiocarbon dating. This is recognised in the report, and Dr A. J. Clark of the Ancient Monuments Laboratory states:

> " *if the span of occupation of the site has been correctly assessed, some technical problem with the radiocarbon material must have arisen, or alternatively that the span of occupation should be more compressed*" (*ibid.*: 144).

Consequently, it is unknown whether there is a problem with the radiocarbon data or with the ceramic chronology, or with both.

6.2.8.3 Typological classification: Analyses on morphological characteristics

There are 62 ratios of neck diameter to maximum diameter (see Figure 6.107). 11 vessels without this ratio, or 17.7% of the ceramic assemblage, are dealt with as category ④. The ratios are distributed between 47 and 100% and can be divided into three categories ① to ③, based on the gaps in the ratio values. However, these can be separated into categories ① and ② and category ③. The vessels of the former group, which have relatively narrow necks and swollen bodies, are uncommon in the assemblage whilst with the majority have relatively wide necks and non-swollen bodies.

The vessels from categories ① to ④ are first separated into the 'Plain' type and the 'Decorative' type, and the 'Rounded' type and the 'Inflectional' type. Subsequently, a variety of morphological factors have been used to sub-divide the classified vessels, the detail of which is presented in Tables 6.67.

The above classification produces 33 forms: one form each in categories ① and ②, eight forms in category ④ and 23 forms in category ③. However, certain forms that consist of only one vessel, including categories ① and ②, are uncommon in the ceramic assemblage and thus have been excluded from the major forms. According to the average number of the vessels per form in each category (see Table 6.68), there are two major forms in category ④ and seven major forms in category ③.

Category ④ (Figure 6.108)

Both of the major forms (Forms 1, 2) have vertical, but convex bodies and no decoration, and are of a similar size. The main difference between the two major forms is depth: Form 1 is shallow whilst Form 2 is deep. The vessels in these forms account for 14.7% of the whole major forms.

Category ③ (Figures 6.109 to 6.112)

The major forms in this category are classified into five ‘Plain’ types (Form 1, 2, 5, 10, 12) and two ‘Decorative’ types (Form 16, 22). Most of the ‘Plain’ types are similar, in terms of having round bodies and small rims. The vessels of these ‘Plain’ types can be also divided into several groups in each form, based on the difference in rim shape and upper body shape. Moreover, there is a variety of size within these ‘Plain’ types, however, the vessels in Form 5 are relatively larger than the other forms. Only Form 12 belongs to the ‘Inflectional’ body type within the ‘Plain’ types, whilst the ceramic shapes in this form are shallower than those of the other types. The two ‘Decorative’ types are clearly different from each other, in terms of rim shape, body shape and decoration patterns. There is no specific variety in the size of the vessels in Form 16 whilst those in Form 22 have various sizes. These vessels in both forms can be classified into two or three types, based on the detailed differences in morphological characteristics. The percentage of the major forms in this category is 85.3%.

6.2.8.4 Summary

Category ③ is predominant in the ceramic assemblage, especially the vessels of the ‘Plain’ type with round bodies and small rims. The major forms in category ④ consist of the ‘Plain’ types. Many of the major forms in both categories are constituted of two or three groups which show slight differences in morphological characteristics. However, in order to define the meanings of these differences, it is necessary to obtain a sufficient amount of useful data on both stratigraphy and absolute dates.

6.3 Evaluations of the proposed ceramic classification system

6.3.1 Comparisons between the proposed system and Cunliffe's system

One of the main aims of this study, as stated above, is to re-construct chronological frameworks of Iron Age vessels in central-southern Britain. This was deemed necessary due to a number of problems that I have identified with the existing typological classifications and chronological schemes, including the Danebury scheme, which has been highly influential on a number of related ceramic studies. In addition, the above case studies revealed that there is little information on both relative and absolute chronologies related to the vessels available from the excavation reports. However, several clues for considering these chronologies were available from the materials recovered from Danebury and Hengistbury Head.

In the case of Danebury, the vessels selected for the typological classification are broadly separated into two periods, based on the information useful for examining chronology (see Table 6.30). From Danebury, and the other sites in the Andover area, there are relatively few vessels from the earlier period, and therefore few major forms, except ⑧-5, ⑨-15, ⑨-73, ⑨-85, ⑨-86 and ⑨-121 (see Figs 6.19, 6.28, 6.35, 6.37, 6.48). Some of these major forms are also found Hengistbury Head, but the percentage in the ceramic assemblage is significantly low. Given this, the majority of the vessels selected for the typological classification belong to the later period of the Iron Age.

The more than 100 *amphorae* recovered from Hengistbury Head are one of the main clues for considering ceramic chronologies. There are a variety of types, as David Williams stated (1987: 271), however, most of these types of *amphorae* are composed of *Dressel 1*, followed by *Dressel 20*. The typological classification and chronology of *amphorae*, especially those imported from the continent to Britain, were developed by D. P. S. Peacock (1971, 1984). His scheme of these *amphorae* has been broadly accepted in Iron Age studies (*e.g.* Fitzpatrick 1985; Williams 1987, 1989). According to Peacock's scheme, the *amphorae* found from Hengistbury Head can be summarised as Table 6.69. The periods of these *amphorae* range from the late second century BC to the first century AD. The span covers the last 200 years of the Iron Age, which approximately correspond to the second half of the later period which was identified in the case study of Danebury. At first sight, this appears to be useful for dividing the later period into two sub-periods; however, most *amphorae* from the site, including *Dressel 1*, were recovered from all stratigraphic phases from the Iron Age to the Roman period. Table 6.70 shows the stratigraphic correlations between the vessels selected for the typological classification and these *amphorae*. In other words, the Iron Age vessels from the site can be regarded as those used during the occupation or deposited after the late second century BC. A small percentage of the vessels belonging to the earlier period in the assemblage, such as ⑩-4 and ⑩-14 on Figure 6.135, are highly likely to be residual, re-deposited or incorporated materials.

According to the chronological information in the reports of Danebury and Hengistbury Head above, it also appears that the ceramic assemblages from the other case study sites are mainly composed of the vessels from the later period. There are few major forms having marked long upright rims and specific decorations, such as horizontal cordons with zigzag lines and impressions on rim tops in these assemblages, apart from Danebury (*cf.* Figures 6.123 to 6.137). Additionally, it is unlikely that these can be arranged in chronological order within the later period because of the paucity of information on both relative and absolute chronologies.

Based on these results from the case studies, let us compare a chronological scheme produced by the proposed system in this study with that derived from by Cunliffe's system, the latter being one of the most influential in Iron Age studies of central southern Britain. Given the above circumstance, the ceramic assemblage produced from the Danebury excavations is the essential for comparison between these different schemes. Firstly, in terms of classification of vessels, Cunliffe's scheme (Cunliffe 1984b; Cunliffe and Poole 1991b) divided these into 63 "*varieties*" which are the lowest level in his classificatory system (Cunliffe 1984b: 232). On the other hand, the author's has proposed scheme produced 232 *types* which are the lowest level in this study's classificatory system (although the study omitted small sherds and lower bodies of vessels for examination: *cf.* Tables 6.23 to 6.27). The suggested classification in this study therefore could be regarded as more complicated than Cunliffe's classification because of the multitude of the *types* proposed. However, these *types* were produced on the basis of a number of distinguishable attributes which suggests that the ceramic assemblage from Danebury potentially includes a much more diverse range of pottery forms than those considered by Cunliffe's scheme. Although there is need to organise a huge amount of vessels into groups for understanding these vessels, such groupings can be done by use of different levels of concepts in classificatory systems as both the above systems adopted. This study therefore regards it as important to classify vessels into as many types as possible, to form the lowest levels of classificatory systems, because these types can have an impact on various issues concerning pottery, including chronology. For example, if a certain type of vessels produced by insufficient classification includes those of clearly different dates, one vessel of the type can provide an improper date to a context where the vessel was from. Considering these issues, the ceramic classification by the proposed system appears to have reduced causes of such confusion in considering ceramic chronology, compared with Cunliffe's classification. However, it is difficult to demonstrate the above possibility in

Danebury's ceramic assemblage because of the paucity of information for dating vessels as mentioned above.

Secondly, we shall discuss differences between Cunliffe's ceramic scheme and this study's ceramic scheme. According to his explanation of "*ceramic phase (cp)*" (Cunliffe 1984b: 233-4), diagnostic characteristics of pottery for the individual phases are based on different "*basic classes*", such as "*jars*", "*bowls*", "*saucepan pots*" and "*amphorae*", and each typological change of these "*basic classes*" in chronology is uncertain. However, chronological continuities of ceramic "*varieties*" are provided in detail in the Danebury's reports (Cunliffe 1984b; Cunliffe and Poole 1991b *etc.*; *cf.* Table 6.19). Based on such information on Danebury's ceramic scheme, the scheme can be simply visualised as shown in Figures 6.138 and 6.139. What is interesting about this scheme is that there are much more "*forms*" from the early to late periods than those in the earliest and latest periods. The individual "*ceramic phases*" from the early to late periods have about 15 "*forms*", meanwhile those in the other periods include less than 10 "*forms*". Though this could be because of the differences between lengths of these periods and those in find-spots, the contents of the ceramic assemblages from the early to late are more complicated than those in the other periods under present circumstances. Another interesting point is that there are relatively a number of "*forms*" which continued to exist through the early to late periods, such as JB4, JC1, JC2, JD5, BC1, BC2, DA1 and DA2 (*cf.* Table 6.19).. By comparison, only four "*forms*" continued to exist from the earliest to early periods, and there are all "*forms*" were newly appeared in the latest period.

This study's ceramic scheme broadly separated the ceramic assemblage of Danebury into two periods as proposed in the above case study (see Chapter 6.2.1; *cf.* Table 6.30). The scheme can be organised as presented in Figures 6.140 and 6.141, using the same ceramic illustrations as those in Figures 6.138 and 6.139. In terms of absolute dates, from a broader viewpoint, the earlier period corresponds to the earliest and early periods of Cunliffe's scheme (*cp* 1 to 5), and the later period is equivalent to the middle, late and latest periods of Cunliffe's scheme (*cp* 6 to 9). Both schemes show some similar viewpoints about trends in various ceramic types between the earlier and later periods. However, the proposed scheme regarded short and simple rims as one of the important characteristics of the later period. On the other hand, there are vessels having these rims, such as JC1, JC2, JB4, BC1, BC2, PA1 and PA2, with those having long and upright rims in the early period (*cp* 3 to 5) of Cunliffe's scheme (see Figure 6.138). In order to resolve this clear difference between both schemes, more useful data on both absolute and relative dating for vessels is needed. This appears to apply to the unclear date of the border between the earlier and later periods of the proposed scheme and their chronological subdivisions of vessels.

6.3.2 Applications of the proposed system to assemblages from other sites outside the Andover area

6.3.2.1 Introduction

This section addresses further case studies, using assemblages from other sites outside the Andover area where there are the sites of the above case studies. This is to consider how the classification methods proposed in the previous chapter work for materials of different areas. Two Iron Age sites in central southern Britain, Battlesbury Bowl in Wiltshire and Maiden Castle in Dorset, are selected for examination. This is because their reports presented a number of ceramic illustrations useful for analyses by the proposed methods, compared with other site reports. Additionally, as these sites are not remarkably far from the Andover area, comparisons of ceramic classifications between them and the above case study sites appear to be possible. Furthermore, Maiden Castle is one of the important sites in central southern Britain for Iron Age pottery studies and related studies as well as Danebury and Hengistbury Head (*e.g.* Brown 1987a, 1991a; Cunliffe 1984bc, 2005; Sharples 1990, 2010). Therefore, a ceramic assemblage from Maiden Castle must be worth examining for these studies.

6.3.2.2 Case Study I: *Battlesbury Bowl*

6.3.2.2.1 Introduction

Battlesbury Bowl in Wiltshire is situated on "*the southern margins of Cretaceous deposits of Upper, Middle, and Lower Chalk*" at an altitude of around 170 metres and on "*one of a number of outlying hills separated from the main body of the downs*" (Ellis *et al.* 2008: 9). The River Wylye is running about "*1 km to the south-west*" of this site and there is a hillfort, Battlesbury Camp, just to the south of Battlesbury Bowl (*ibid.*: 9).

The excavation carried out in 1999 revealed many features from the late Bronze Age to the Iron Age, including pits, postholes and ditches, which produced a number of finds, such as vessels, human remains, animal bones and various small finds (*ibid.*: 9-13). The excavation report presents 58 illustrations of late Bronze Age and Iron Age vessels. However, the vessels in complete profile consist of only 3 of the illustrations, which account for 5.2% of the total, whilst there are illustrations of 29 upper bodies (Table 6.71) representing 50% of the whole.

6.3.2.2.2 Information on chronology: stratigraphy and absolute dating

There is little information on stratigraphic relations between features available from the excavation report. Four chronological phases presented in the report are based on existing chronological frameworks of Iron Age pottery of Potterne in Wiltshire and Danebury in Hampshire (Ellis *et al.* 2008: 14-5). The report also includes 16 results for radiocarbon dating which are used for defining a chronological scheme of Battlesbury Bowl. According to the report, this site can be chronologically divided into three stages: "*Phase 1/2: 800-350 cal BC*", "*Phase 3: 350-200 cal BC*" and "*Phase 4: 200 cal BC-AD 43*" (*ibid.*: 14; see Table 6.72).

The number of vessels selected from the report for classification is not so many, but it may be possible for a number of these to be compared with the radiocarbon dating results. Three of 29 upper bodies, ceramic Nos. 24, 33 and 45, were found from the same contexts as samples for radiocarbon dating, and nine of the upper bodies, ceramic Nos. 5, 7, 12, 13, 15, 17, 22, 26 and 41, were produced from upper or lower layers than those having radiocarbon dates in the same features (see Table 6.72). Additionally, there are several cases which allow stratigraphic comparisons between vessels within the same features, such as ditch 4043, pit 4707 and pit 5750. These will be examined for considering this site's chronological scheme of vessels after their typological classification of vessels in the following section.

6.3.2.2.3 Typological classification: Analyses on morphological characteristics

There are 26 ratios of neck diameter to maximum diameter (see Figure 6.142), and three vessels without this ratio is dealt with as category ③. The maximum diameter of ceramic No. 18 corresponds to its rim diameter, which means that it has no neck. Meanwhile, Nos. 12 and 17 have necks, but their maximum diameters are not body diameters but rim diameters, and also their neck diameters are the second longest diameters in these vessels. The ratios are distributed between 64 and 100% and can be divided into two categories ① and ②, based on a clear gap in the ratio values. Category ① has only one vessel (No.35) which has a relatively narrow neck and swollen body. The majority of vessels having relatively wide necks and non-swollen bodies belong to category ②. The vessels from categories ① to ③ are first classified into the 'Plain' type and the 'Decorative' type, and the 'Rounded' type and the 'Inflectional' type. Subsequently, subdivisions of these classifications are made, using various morphological factors. The detail of the classified vessel types is presented in Table 6.73.

The above classification produces 23 forms: one form each in categories ① and ②, 19 forms in category ② and three forms in category ③ (see Figure 6.143). However, there are a number of forms which consist of only one vessel in these categories, and the other forms also includes only a very few vessels. This is because of the small number of upper bodies for classification available from the excavation report. Despite this circumstance of ceramic materials, according to the average number of the vessels (1.3) per form in each category, there are five major forms in category ② which have more than two vessels. The major forms are classified into four 'Plain' types (Forms 2, 3, 6, 14) and one 'Decorative' type (Form 15). The individual 'Plain' types have specific characteristics of rim and shoulder shapes, and Form 14 is somewhat smaller and shallower than the other types. These types are composed of relatively similar size to each other, but Form 6 appears to have two sizes. There are also two sizes in the 'Decorative' type (Form 15).

6.3.2.2.4 Examinations of vessels for a chronological scheme

As mentioned above, there is certain information on stratigraphy and radiocarbon date associated with vessels selected for the above typological classification (see Tables 6.71 and 6.72). Figure 6.144 represents the information with illustrations of these vessels, and the higher numbers of context numbers are straigraphically earlier. Because of the small number of the vessels, it is difficult to identify clear chronological sequences. However, some characteristics about a ceramic chronology of Battlesbury Bowl can be pointed out in consideration of the above proposed chronological scheme in the Andover area of Hampshire.

Vessels with long and upright rims which are main factors of the earlier period of the proposed scheme similarly could belong to an earlier period of the Iron Age in this site. Two such vessels (Nos. 5 and 7) were found from stratigraphically lower contexts than a context which produced earlier radiocarbon dating results: *cal.* 790 to 420 BC and *cal.* 770 to 400 BC (see Figure 6.144). Although the other earlier types of vessels such as Nos. 22 and 26 were found from contexts of a later period, these vessels were potentially re-deposited or residual. The other types of vessels having short or simple rims which are important elements of the later period of the proposed scheme are basically associated with later radiocarbon dating results: *cal.* about 400 to 100 BC (see Figure 6.144). However, No. 18 was found from an earlier period's context which is stratigraphically lower than a context accompanied with an earlier radiocarbon date, *cal.* 770 to 400 BC. Therefore, this type of vessels is likely to be one of the earlier period's types of pottery, but this should be carefully considered with further useful samples. Given these situations of vessels from Battlesbury Bowl, the two periods divided in the proposed scheme may be applied in the ceramic chronology of this site.

6.3.2.2.5 Summary

Through the Iron Age of this site, the ceramic assemblage is largely composed of Category ②. The category includes various types of pottery, but the 'Plain' types with round or vertical bodies and small or simple rims appears to be common. The other categories also consist of a variety of the 'Plain' types. In terms of a ceramic chronology, it is possible that the proposed chronological scheme of vessels in the Andover area is applied to the ceramic assemblage of this site. This is based on stratigraphic information on vessels, radiocarbon dates associated with them and comparison with the proposed scheme. However, in order to clarify detailed chronological sequences of vessels from this site, an adequate amount of materials and useful data on both stratigraphy and absolute dates are needed.

6.3.2.3 Case Study II: *Maiden Castle*

6.3.2.3.1 Introduction

Maiden Castle in Dorset is one of the immense Iron Age hillforts in central-southern Britain. This site is located on about 430 to 440 feet above sea level and "*extends to the natural limits of a saddle-backed hill of the Upper Chalk, and encloses two low knolls*" (Wheeler 1943: 14). A number of excavations of Maiden Castle were undertaken between 1934 and 1937 by Robert Eric Mortimer Wheeler and between 1985 and 1986 by Niall Sharples. Their reports were published soon after the excavations and provided a lot of information on the site and Iron Age materials including vessels (Wheeler 1943, Sharples 1991).

According to the reports, Maiden Castle was occupied through the early Iron Age to the early Roman period (Sharples 1991: 43-5). However, probably in association with the development of the hillfort, most vessels produced by the excavations appear to relate to the later Iron Age (Brown 1991a: 192). A total of 451 illustrations of Iron Age vessels are presented in both the reports though a small number of early Roman vessels may be included. However, the number of vessels in complete profile is 71 of all the illustrations, representing 15.7% of the whole. Meanwhile, the number of illustrations of upper bodies is 275, the percentage of which is 61% of the total.

6.3.2.3.2 Information on chronology: stratigraphy and absolute dating

Maiden Castle's excavation report by Wheeler presents stratigraphic information relating to vessels with their illustrations. Table 6.74 shows one example of this situation (Wheeler 1943: 194-7). One of the important points about the stratigraphic information associated with vessels in the report is phases which the vessels belong to. In the case of vessels shown in Table 6.74, most of the vessels belong to "*Iron Age A*". The phases of "*Iron Age A*", "*Iron Age B*" and "*Iron Age C*" were proposed by Wheeler, utilising Hawkes's scheme of Iron Age Britain (*ibid.*: 29-30). In other words, the examination of ceramic chronology in the report is not based on stratigraphic relations between features relating to vessels but rather his scheme. The information on such relations is also not easily available from the report.

In terms of absolute date, there is understandably no information on radiocarbon dating of vessels because Wheeler's report had been published before the dating method was introduced to archaeology. In order to consider absolute dates of Iron Age vessels, contexts and features, Wheeler considered dates of brooches which could be compared with those in the continent by a cross-dating method along with ceramic typology and Hawkes's scheme (*ibid.*: 251-64). Wheeler's chronological scheme of the Iron Age in Maiden Castle can be summarised as presented in Table 6.75 below (*ibid.*: 28-61). However, it seems that there is little information which represents definite stratigraphic associations between vessels and brooches with specific dates.

Meanwhile, the excavation report of Maiden Castle by Sharples mainly presents ceramic illustrations of stratigraphic groups (Sharples 1991: 199-205). In terms of straigraphy, the report separates the site sequences into eleven phases, including the Iron Age phases: "*5 Early Iron Age*", "*6 Extended fort*" and "*7 Late Iron Age occupation*" (*ibid.*: 43-5; see Figure 6.144). The ceramic illustrations are presented in order from 6C in Trench II to 6H in Trench IV and 7A in Trench VI in the report. Phase 6 in trench VI is further sub-divided into four stages, 6E to 6H, which could be useful for considering relative chronological relations between vessels, based on their comparisons between the stratigraphic stages. However, according to the report (*ibid.*: 191), there appears to be often re-deposition of vessels and other artefacts in the site, and hence such comparisons are not always effective for defining ceramic relative chronology.

As for absolute date, the report presents a number of dating results by two scientific methods: a radiocarbon dating method and an archaeomagnetic dating method. 26 samples were dated by the radiocarbon dating method. 10 of them were analysed by "*conventional liquid scintillation techniques*", and the other 16 samples were examined by "*Accelerator Mass Spectrometry (AMS)*" (*ibid.*: 102). However, the dates of the entire samples lie between about 4,000 B.C. and 3,000 B.C., therefore these samples are not useful for considering absolute dates of Iron Age vessels. On the other hand, the analyses by archaeomagnetic dating show that three samples relate to the late Iron Age and the early Roman period, and the detail of their results is as follows: at the 68% confidence level , 1)

Clay surface of hearth 6843 in trench IV, phase 6H: 70-20 *cal.* BC; 2) Clay surface of hearth 6841 in trench IV, phase 6F: 200-150 *cal.* BC and 3) Clay surface 7124 of a hearth in trench VI, phase 7A: *cal.* AD 50-110. Although the amount of the data on absolute dates is not sufficient for providing reliable chronology of vessels, the above data could be useful as a general indicator. Furthermore, a number of brooches whose dates can be inferred are available from the report. This data will also be examined after the following typological classification of vessels.

6.3.2.3.3 Typological classification: Analyses on morphological characteristics

275 ratios of neck diameter to maximum diameter are available from the excavation reports (see Figure 6.146; Tables 6.72 to 6.82). The ratios are distributed between 54 and 100%, and can be separated into five categories ① to ⑤ in the same way as the above case studies. However, there are 33 vessels which have not this ratio, representing 12% of the total, and Category ⑥ is allocated to these vessels. From a broader view, categories ① to ⑤ can be divided into categories ① and ② and categories ③ to ⑤. The vessels of the former group having relatively narrow necks and swollen bodies are a minority group in the ceramic assemblage which is composed of 11 vessels, showing 4% of the whole. On the other hand, those of the latter group with relatively wide necks and non-swollen bodies constitute a large portion of the assemblage which consists of 231 vessels, representing 84% of the total.

In terms of major division of the vessels in each Category, the classification based on surface treatment and body shape which was adopted in the above case studies seems to be useful for understanding the structure of the ceramic assemblage. The following subdivision of the vessels is feasible, using various morphological attributes such as rim shape, shoulder shape, height and decoration patterns. The detail of the typological classification of the vessels is presented in Tables 6.83 to 6.85.

170 forms are provided by the above classification: one form in category ① and 10 forms each in categories ② and ③, 105 forms in category ④, 19 forms in category ⑤ and 25 forms in category ⑥. This shows many varieties of the vessels selected for the classification, and a number of the produced forms are composed of only one or a few types of vessels. Such uncommon forms are removed from major forms for descripted purposes. The major forms are selected, based on the average number of the vessels per form in each category (see Table 6.86): three major forms in category ③, 40 major forms in category ④, five major forms in category ⑤ and eight major forms in category ⑥.

Category ③ (Figure 6.147)

This category's major forms (Form 1, 3, 5) are composed of the 'Plain' types and the 'Rounded' bodies, and have similar morphological features to each other, especially in shoulder shape and rim shape. The difference between these forms lie in the detail of such characteristics, but Form 1 has a clearly different attribute of countersunk handles form the others. In terms of size, each form appears to have broadly two types, larger and smaller. The vessels in these forms account for 5.5% of the whole major forms.

Category ④ (Figures 6.150 to 6.155)

There are 40 major forms in this category which are classified into 29 'Plain' types (Form 1, 2, 3, 4, 9, 10, 16, 17, 21, 22, 23, 24, 28, 30, 32, 33, 35, 36, 37, 38, 39, 41, 43, 44, 47, 51, 53, 54, 56) and 11 'Decorative' types (Form 60, 71, 72, 76, 77, 78, 85, 86, 90, 91, 96). The great number of the major forms shows various differences between them in shoulder and rim shape, height and size. However, both the 'Plain' types and 'Decorative' types are mainly composed of the 'Rounded' bodies. There are only three 'Inflectional' bodies in the ‘Plain’ types and no ‘Inflectional’ bodies in the ‘Decorative’ types. Another point to note is that most rims are small. The percentage of the major forms in this category is 71.4%.

Category ⑤ (Figures 6.148)

The major forms in this category consist of the ‘Plain’ types, but they are classified into three ‘Rounded’ bodies (Form 4, 9, 10) and two ‘Inflectional’ bodies (Form 14, 16). The former forms show definite difference from each other in shape, such as shoulders, rims and heights. In terms of size, Form 4 is relatively larger than the others which seem to have different sizes within the individual forms. The latter forms with the ‘Inflectional’ bodies are composed of shallow body vessels though Form 16 is rather deeper than Form 14. Another difference between them is rim shape. Their sizes are similar to each other, and each form appears to have two sizes, larger and smaller. The vessels in these forms comprise 8.9% of the whole major forms.

Category ⑥ (Figures 6.149)

Eight major forms are available from this category. They are separated into six ‘Plain’ types (Form 1, 6, 7, 11, 12) and two ‘Decorative’ types (Form 16, 18). The ‘Plain’ types can be further divided into deep bodies (Form 1, 6) and shallow bodies (Form 7, 9, 11, 12). Most of the types have similar sizes to each other although Form 11 is somewhat smaller than the others and there are a smaller size and a larger size in Form 6. Both the ‘Decorative’ types have shallow bodies, but Form 16 is rather deeper than Form 18. They also represent clear difference in rim shape. However, their sizes are similar to each other. The percentage of the major forms in this category is 14.3%.

6.3.2.3.4 Examinations of vessels for a chronological scheme

The useful data for examination of ceramic chronology of Maiden Castle is available from the excavation report published in 1991, as mentioned above. Iron Age vessels presented in the report are composed of those of Phase 6: the Middle and Late Iron Age (Brown 1991: 191-205). In terms of consideration of stratigraphic relations of vessels, the materials produced from contexts of Phases 6E, 6F, 6G and 6H in Trench IV are important as these phases provide the relations (see Figure 6.145). Figures 6.156 to 6.158 show the stratigraphic relations between vessels selected for typological classification in this study. However, ceramic illustrations from Figure 6.156 to the upper part of Figure 6.157 consist of only one vessel available from each major form. Meanwhile, the others are composed of more than two vessels available from each major form.

As for the former group, it is difficult to identify specific typological sequences of vessels because of the paucity of the materials, but there are some chronological characteristics of the vessels. Firstly, vessels with small rims exist through Phases 6E to 6H. This is one important attribute of the later Iron Age which the scheme proposed for vessels from the Andover area, and the scheme's attribute may be applied to the ceramic assemblage of this site. Secondly, there are few vessels having longer rims which are one of the significant factors of the earlier Iron Age in the proposed scheme. Although there are a few vessels with relatively long rims, such as Forms 71 and 83 of category ④ in Figure 6.157, they are probably residual and re-deposition of vessels, considering report's view. This situation also suggests the applicability of the proposed scheme of Iron Age vessels form this site. The same as the former group is also true of the latter group in the lower part of Figure 6.157 and Figure 6.158. In other words, the vessels within Phase 6 do not easily allow consideration of their typological developments based on their stratigraphic relations.

Additionally, a majority of vessels in this group are composed of those having small rims, which supports the above applicability of the proposed scheme.

In terms of absolute date of Phase 6, the report presents detailed discussion, examining results of archaeomagnetic dating and dates of brooches, amphorae and other artefacts (Sharples 1991: 241-2; see Table 6.85). The site Iron Age chronology presented in the discussion appears to achieve consistency between dates of such various artefacts. However, according to the report, issues on re-deposition and residuality of these artefacts need to be taken into account as well as the case of vessels (*ibid.*: 241). This suggests the difficulty of establishing the detailed Iron Age chronology of Maiden Castle.

6.3.2.3.5 Summary

Category ④ is most common in the ceramic assemblage selected for typological classification, especially the vessels of the ‘Plain’ type with round bodies and small rims. However, the vessels in this category include a variety of sizes and shapes of rims and shoulders. Other common categories behind category ④ are categories ⑥ and ⑤. In other words, vessels having narrow necks and swollen bodies tend to be in a minority of the assemblage.

There are difficulties in constructing a chronology of vessels from Maiden Castle. A majority of Iron Age vessels presented in the report belong to the later Iron Age between the third century BC and the early first century AD. This appears to be ensured by various materials which provide absolute dates. However, the information on stratigraphic relations between vessels does not easily allow us to arrange them in chronological order. The main reason of this is probably because of re-deposition and residuality of vessels.

6.3.2.4 Conclusion

The above case studies of two sites outside the Andover area presented new typological classifications of vessels from these sites, using the method proposed in this study. The method seems to be applicable to vessels of different areas as it worked in the same way as the case studies of the Andover area. Additionally, comparisons of vessels between the different areas represented similar chronological aspects of the vessels to each other. In other words, the main factors of the chronological scheme of Iron Age vessels from the Andover area were also identified in the ceramic assemblages from Battlesbury Bowl and Maiden Castle. However, there was difficulty in producing detailed chronological sequences of the vessels and subdivisions of the ceramic chronologies. This is due to paucity of useful data on absolute date and stratigraphy and to insufficient amounts of vessels effective for establishing chronological sequences. Re-deposition and residuality of vessels are another cause of the difficulty. This issue was also identified in the case studies of the Andover area. Therefore, it will be discussed in detail in the later chapter.

6.4 Comparisons between Iron Age vessels from the case study sites

Despite the limitations of the information on ceramic chronology, the typological classification of Iron Age vessels has provided a variety of interesting characteristics which are identifiable in the important steps of the classification process. However, each site produces a different variety and quantity of pottery from the other sites. Especially, there is marked bias in the numbers of the vessels between the case study sites, the reasons for this are thoroughly considered in Chapter 7. This issue is unavoidable, given the nature of existing published sources and the different scale of each site and excavation, this ensures that we cannot be certain to what extent variation in form groups reflects excavation areas in terms of scale and location, as opposed to real differences in the chronology and exchange networks of individual sites. Because of these properties of pottery assemblages from the individual sites, the vessels should be primarily classified by site, rather than compared to an overall group average, which results in providing indigenous pottery classification for each site. In addition, although it could be useful for chronology and distribution studies that all the sites' data is combined and ceramic classification of each site is compared to the general average pattern, the complex classified types in each site do not easily allow this. In the case of this study, the classification is seen in *Categories*, *ceramic types* and *Major Forms* which are established in different stages of classification. If such classified groups have specific features which can identify date and production areas of pottery, they can be useful tools for considering chronology, production and distribution of pottery. The above case studies showed that there were a number of *ceramic types* and *Major Forms* effective for constructing pottery chronology although they were insufficient for subdividing both the earlier and later periods. In terms of *Categories*, there was little information useful for examining the above issues. In addition to the paucity of the information, this is probably because a majority of *Categories* were produced throughout the Iron Age in the case studies' area. However, their detailed situations appear to be uneven between the sites. Additionally, the ceramic classifications of the individual sites were established, based on the circumstances of these assemblages. Hence, the relations between the classifications remain unclear. In order to clarify these, the comparison of the vessels between these sites will be made in the following sections. The comparison could also provide further useful clues for considering regional questions concerning Iron Age pottery.

It is clear that there are various distribution patterns of the ratio of neck to maximum diameter between the case study sites, however, there are three groups, although the exact percentages depend on the materials from the individual sites. One group (Group A) is between about 40 and 70%, and another group (Group B) is between 70 and 100%. Group C is composed of vessels whose maximum diameters are their rim diameters and whose neck diameters are larger than the body maximum diameters. The division between Group A and Group B is based on relatively distinct gaps at about 70% in individual assemblages. Table 6.88 represents the percentages of these groups in each site and the correlation between these groups and the established categories in each site. Based on these groups, the proportion of the assemblage belonging to each group can be seen in Figure 6.159 and Table 6.89.

The constituent ratio of Hengistbury Head is notably different from those of the other sites: the small proportion of Group C and the relatively large amount of Group A are significantly characteristic. It can be inferred that there are three main reasons for this. Firstly, this site is located some distance away from the other sites in the Andover area (see Figure 3.21). This might have caused the difference in the systems of ceramic production and distribution between this site and the others. Hengistbury Head is also situated on the southern coast unlike the other sites in the inland area, which might have led to the difference in the ceramic cultures between these areas. Secondly, the date of the majority of Iron Age vessels from this site tends to lie in the last 200 years of the Iron Age, from the late second century BC to the first century AD, as indicated above. Although the detailed dates of the vessels from the other sites are uncertain, the ceramic date of Hengistbury Head appears to be biased towards the late period, compared with the ceramic dates of the other sites. Thirdly, most of the Iron Age vessels from Hengistbury Head consist of the imports from other regions, including Armorica in the continent (Cunliffe and Brown

1987: 309-21). These imports are broadly classified into three types, "*Black Cordoned ware*", "*Rilled Micaceous ware*" and "*Griphite-coated ware*", and these number more than 550 individual vessels (Cunliffe 1997: 4-5). Additionally, there are a small number of imports from south-western Britain, which are decorated vessels called "*Glastonbury ware*" (Cunliffe and Brown 1987: 316-7). This also could influence the notable characteristic of the ceramic assemblage of Hengistbury Head, in terms of the component ratio of the three groups.

Secondly, there are specific trends between the constituent ratios of the sites in the Andover area: if the proportion of Group A is low, that of Group C is also low (see Figure 6.159). This is applicable to Houghton Down, Old Down Farm, Nettlebank Copse and Balksbury Camp whilst at the other sites, such as Woolbury, Suddern Farm and Danebury, there are relatively higher percentages of Group A and Group C. The constituent ratio of Bury Hill could be also applied to this trend, however, Group A is not identifiable in the distribution of the ratios of neck diameters to maximum diameters. This is likely because the number of the ceramic samples from this site, 33 vessels, is too small. If more ceramic materials are recovered from future excavations at the site, the proportion of Group A may grow. Comparing sites within the two groups, the locations of the former group disperse from the north (Old Down Farm) to the south (Houghton Down) in the Andover area, and also lie to the west of the rivers Anton and Test (see Figure 3.21). Meanwhile, the locations of the latter group tend to be biased towards the south area. However, if Bury Hill is included into the group by the increase of ceramic materials in the future, it is possible that this trend will change.

In addition to this, the difference between the two site groups may reflect the difference in site types, such as enclosure settlements and hillforts, which are presented in the Danebury environs report (Cunliffe 2000: 36-7). The former site group above tends to be constituted of enclosure settlements whilst the latter site group mainly consists of hillforts (compare between Figures 6.159 and 6.160). Although one settlement (Suddern Farm) belongs to the latter group, it is closer to the size of the hillforts. In the larger settlement enclosures, there tend to be higher percentages of Groups A and C. On the other hand, in the smaller hillforts, there tends to be a higher percentage of Group C. Although Balksbury Camp is clearly different from the other hillforts, the above trend in size can be also applied to this site: the size of this site is relatively large and the percentage of Group C is low. However, it is important to remember that these various trends could be due to the differences in the periods of the individual assemblages, the lengths of these periods and the lengths of the site occupation periods.

Following the first step of the classification, the vessels were further classified by two characteristic factors in appearance: surface treatment (‘Plain’ or ‘Decorative’) and body shape (‘Rounded’ or ‘Inflectional’). The information for the comparison between these factors and the selected major forms of the vessels in each site is provided in Figures 6.161, 6.162 and Tables 6.90 to 6.92. However, a number of unique vessels from Hengistbury Head were omitted in the process of the typological classification, because these were likely to cause confusion in understanding the assemblage. The major forms from the ceramic assemblage from Hengistbury Head were also selected using a different method. Although these differences are taken into account in the comparison, the major forms from this site provide a useful comparison to the other sites and thus, they are also analysed here.

In terms of body shape, the ‘Rounded’ types predominate over the ‘Inflectional’ types throughout the assemblages from all the case study sites (see Figure 6.161). Hengistbury Head is the exception, as it has a higher percentage of ‘Inflectional’ types. The ‘Rounded’ type constitutes all the major forms of Bury Hill, Balksbury Camp and Houghton Down in the Andover area, which could be due to the small numbers of these major forms. There are some identifiable differences due to location, as can be seen in the constituent ratios of the three groups above. The difference lies between the north and the south in the Andover area (see Figures 3.21 and 6.161). However, the assemblage of Old Down Farm contained a larger percentage of the 'Inflectional' types, unlike the other sites in the north, Bury Hill and Balksbuy Camp. This could be due to the difference in site types and size. For the sites in the south, the assemblages appear to broadly show a similarity in the proportions of the two body shapes. In terms of site types and sizes, there are unlikely to be specific correlations between the assemblages from these sites, compared between Figures 6.159 and 6.161.

With regard to surface treatment, the 'Plain' types are in the majority in most of the case study sites, apart from Hengistbury Head (see Figure 6.162). This site produced a large number of imports from Armorica, such as "*Black Cordoned ware*", "*Rilled Micaceous ware"* and "*Graphite-coated ware*" as mentioned above, all of which can be categorised as "Decorative" types (see Figures 6.134, 6.136, 6.137) accounting for more than half of the assemblage. On the other hand, all the major forms from Bury Hill and Houghton Down are composed of the 'Plain' types probably due to the small amounts of these major forms.

In terms of the site locations, site types and site sizes in the Andover area, there are no distinct correlations in the structural proportions of these surface types between the sites (compare between Figures 3.21, 6.160 and 6.162). The difference in vessel surface between the sites could relate to the difference in the periods of the vessels and the lengths of these periods. For example, the Danebury scheme (Cunliffe 1984b: 234) adopted two factors of "*plain*" and "*decorated*" of the vessels called "*saucepan pots*", as criteria of *ceramic phases 6* and *7* in the assemblage of Danebury (see Figure 6.18). Although this might be applicable for dating the vessels from the sites in the Andover area, it is uncertain if the criteria are appropriate according to the above examination of the ceramic chronologies. It is possible that there were both types of the "*saucepan pots*" (*ibid.*: 234) in the same period, given these similar body shapes and the co-existence in other kinds of vessels except the "*saucepan pots*" through the Iron Age. The degree of exchange with other regions should be also taken into account as another possible interpretation of the difference between the two surface types. Despite these circumstances, a similar situation to the case of body shape above can be identified in the north. It is the relation between Bury Hill, Balksbuy Camp and Old Down Farm. The difference in the structural compositions of the two surface types between these sites could be due to the difference in the site types of hillforts and enclosure settlements.

Following the classification, major forms were selected from the established forms (*cf.* Figures 6.113 to 6.137). Tables 6.93 to 6.95 show the shared major forms from the case study sites. Figure 6.163 shows the percentage of the major forms which share the same characteristics as those in other sites. According to this data on the constituent proportions, it does not appear that these sites can be separated into groups apart from Hengistbury Head because there are no notable differences between them.

In terms of the site locations, the site types and the site sizes, there also appear to be no specific correlations in the constituent ratios between the sites (compare between Figures 3.21, 6.160 and 6.163), however, several characteristics of the shared major forms can be provided. Many of the major forms are found throughout both the northern and southern areas (see Tables 6.93, 6.94). In the northern area, Old Down Farm, Balksbury Camp and Bury Hill, share major forms with several other sites, excluding Woolbury (see Table 6.93). This may be due to the geographic locations of the northern sites and Woolbury in the south-east. Whilst Woolbury has few similarities to the northern sites, as mentioned above, Suddern Farm appears to have major forms in common with all of the other sites. Suddern Farm might have had frequent exchanges with these sites, considering the high percentage of the shared major forms (see Figure 6.142). The large size of this site may also support this supposition. Nettlebank Copse and Houghton Down have also relations to the other sites, however, these sites interestingly do not share major forms although they are located relatively close to each other (see Figure 3.21). It can be inferred that this reflects the difference in the distribution system of the vessels and the periods of the ceramic assemblages in these sites. Danebury shares major forms with all of the other sites, however the percentage of shared forms at this site is the lowest compared to the other sites in the Andover area (see Figure 6.163). One of the reasons for this appears to be that these include a number of the ‘forms’ belonging to the earlier period, such as forms ⑧-5, ⑨-15, ⑨-73, ⑨-85, ⑨-86 and ⑨-121, as mentioned at the beginning of this section (see Figure 6.142). The percentage of the shared major forms in Hengistbury Head is the lowest overall, at about 35% (see Figure 6.163). This could be due to the imports from the continent, which appear to have been rare in the other sites in the Andover area, as mentioned above. This site shares 11 major forms with these sites (see Figures 6.34, 6.35 and 6.37; Table 6.95), however, these major forms are composed of the ‘Plain’ types, apart from form ⑩-4. According to the study of the Iron Age imports from the continent to Britain (*e.g.* Cunliffe and Brown 1987; Cunliffe 1997), these types do not appear to be regarded as imports from the continent. Given this, these plain vessels from Hengistbury Head may have been involved in the local ceramic culture and the distribution system in the Andover area.

6.5 Summary

Through comparisons of Iron Age vessels, based on the chronology from Danebury and Hengistbury Head, it was discovered that most ceramic assemblages (with the exception of Danebury itself) from the case study sites belonged to the later period. However, it was impossible to establish sub-periods within the later period as the information on chronology was not available from the published sources.

According to the examination of the ratios of neck diameter to maximum diameter, there was a similarity between these sites. The vessels can be separated into three groups (Group A, B, C). This group division appears to represent the fundamental classification based on the function of these vessels and thus, these three groups were common and traditional in the Iron Age pottery in the Andover region. However, the constituent ratios of these groups within the sites displayed a large amount of variation, as seen in the unique case of Hengistbury Head and the diverse correlations with site location, size and type in the Andover area. This is applicable to the main factors for the typological classification of the vessels, such as the body shape and the surface treatment. However, the relations between these sites were significantly complex, depending on the main factors for the classification of the vessels. This appears to suggest the complexity of the production and distribution of Iron Age vessels in this region and could represent one of the different social aspects from the influential hierarchical model centring on hillforts (*e.g.* Cunliffe 1984bc; 1991), as discussed in the subsequent studies (*e.g.* Hill 1995).

It should be kept in mind that it is uncertain how much the difference in these ceramic factors between the sites correlate with the differences in the site locations, site sizes and site types. This is because the periods of the assemblages from the case study sites stretched about 400 years through the later period of the Iron Age whilst a small part of these assemblages includes the vessels belonging to the earlier period. If these assemblages are divided into several sub-periods, and if the lengths of these periods are clarified, the correlation presented in the above examination might not be appropriate for understanding the ceramics from this area. However, it can be applied to a number of existing studies which deal with changes in settlements, artefacts and various social circumstances. It appears that the majority of Iron Age studies in central-southern Britain tend to utilise the chronological schemes constructed by Cunliffe (1974a, 1984b), as will be discussed in the next chapter. If this scheme is changed, the arguments in most of the studies will be forced to be modified. This suggests the need for continuous re-examination of typological studies of Iron Age vessels and the refinement of existing ceramic schemes, alongside the accumulation of chronological data.

Chapter 7

Issues with existing typological classifications and chronologies of Iron Age pottery

7.1 Introduction

As discussed in Chapter 3, principal studies about the chronology of Iron Age Britain were undertaken by Christopher Hawkes in the 1930s (Hawkes *et al.* 1930; Hawkes 1931; Hawkes *et al.* 1931). He presented three chronological stages, named "*the ABC system*", based on characteristic factors in archaeological evidence such as vessels and settlement patterns. Soon after, his scheme was refined on a regional level by R. E. M. Wheeler (1935; 1943) who examined aspects of Iron Age sites in central-southern and south-western Britain. However, Frank Hodson (1960) critisised "*the ABC system*" as it could not appropriately explain the reality of cultural circumstances, thus he proposed a new scheme which considered fluid spatial characteristics for examining cultures.

Typological classification studies of Iron Age pottery began to be developed in the 1970s in order to explore more detailed aspects of the chronology and culture of Iron Age Britain. Dennis Harding (1974: 16) first emphasised the significance of typology, along with the importance of "*a relative sequence from stratified deposits*" and cross-dating. He presented a chronological scheme which showed typologically classified pottery groups, however, definite classification criteria were not provided rendering the scheme subjective. Furthermore, the scheme's content of the scheme is disorganized and is thus very difficult to understand it. Stanley Stanford (1974: 188-214) coincidentally presented a specific method of ceramic typological classification which used two main attributes of rim form and decoration as criteria for constructing typological sequences. Based on this method, he produced a chronological scheme which compared the established typological sequences with stratigraphic information and radio-carbon dates. However, his analysis does not consider difference in ceramic sizes and forms, such as jars and saucepan pots. Furthermore, it is uncertain how effective his method is for vessels from sites other than his case study.

Barry Cunliffe (1974) also produced a refined regional and chronological framework for British Iron Age vessels which used typological classification. He defined the ceramic scheme using "*style-zones*" that "*represent little more than areas of contact*" and was based on "*the characterization of pottery styles and the definition of the areas in which the types constituting the style were commonly in use*" (*ibid.*: 29). According to this concept, the regional and chronological framework of vessels was in detail explained and illustrated with ceramic drawings and distribution maps. However, Chapter 4 indicated a number of problems with this scheme. There is confusion with the wide variety of terms such as "*culture*", "*group*" and "*style*" which appear to correspond to "*style-zone*". The process of typological transition in Iron Age vessels is indefinite, compounding similar problems in other existing studies. Finally, the ceramic relations between regional areas are also uncertain, consequently, it is often difficult to understand the spatial dynamism between vessel groups and between vessels themselves. In addition to these issues, John Collis (1977) critiqued Cunliffe's "*style-zone*" saying "*his approach to the pottery is essentially cultural*", and "*a classic 'historical' model allots to these 'style-zones' a tribal significance*" (*ibid.*: 29). Collis emphasized these problems, stressing "*'Durotrigian' pottery also appears in the territory of the Dumnonii, while the areas assigned to the Atrebates are based on theories on the tribal recoginisation in the Roman province after 43 A.D.*" (*ibid.*: 29). Collis also implied that the "*style-zone*" concept did not consider "*economy*" and "*trade*", as demonstrated by David Peacock (1968, 1969) with the existence of commercial production centres for vessels in south-western Britain in his pioneering petrological studies (*ibid.*). However, Cunliffe (1974: 29) included these aspects in his book as "*an unhappy compromise*". Collis also indicated that there was no specific definition and criteria on Cunliffe's "*style-zones*" or pottery groups, suggesting that they were significantly subjective: "*it is again a case of prejudging the material in precisely the same way as Hawkes did with his ABC system*" (*ibid*: 29). Finally, Collis explained the importance of examining "*'lower order' entities*" of pottery groups by "*regional archaeologists familiar with their local material'*, rather than purely concentrating on "*'higher order' entities*" (*ibid*.: 29-30).

Cunliffe does not seem to have specifically responded to Collis's criticism, though he later undertook typological classification of a large quantity of Iron Age vessels found at Danebury (Cunliffe 1984b). Based on this site's typology he produced a detailed chronological framework which has since been adopted in a number of related studies as a standard chronological scheme, especially in central-southern Britain (*e.g.* Morris 1994, Hill 1995a). Many excavation reports of Iron Age sites in the region have also used the scheme without critical re-examination (*e.g.* Sharples 1991, Barret *et al.* 2000). However, Chapter 4 has shown serious problems with his methodology and practice. This could cast serious doubt on the studies adopting Cunliffe's (Danebury's) chronological scheme.

Given these controversial circumstances, the use of relative and absolute pottery dates will be considered, based on the data of the above case studies in this chapter. This is because these issues are very important for improving and developing chronological studies of Iron Age vessels as well as the issue on typological classification.

7.2 Stratigraphy: relative chronological problems

7.2.1 Introduction

Typological classification of artefacts is one of the most fundamental and important methods for dealing with pre-historic archaeological materials. In developing various studies based on such classifications, it is necessary to constantly re-examine the data from different points of view. This is primarily due to the huge amount of artefacts, including new types of materials, which are accumulated during excavation. New approaches, methods of studies and excavations are also created. This accompanies the increase of ceramic material, all of which can cause significant changes to existing typologies.

Once the artefacts are typologically classified, different factors like function, meaning and date must be identified. Pottery is the most readily available artefact from Iron Age sites and is the most common find in many areas, including central-southern Britain. Therefore, it has been used as a chronological indicator, which is highly important in pre-historic archaeology. However, recent studies (*e.g.* Hill 1995b: 75) have doubted this traditional use of pottery. Nevertheless, most studies, especially about prehistory, have relied on ceramic chronologies to set the framework for discussion. In other words, most archaeologists studying prehistory are likely to admit the usefulness of pottery as a chronological indicator. This is due to be the high availability and commonality of pottery, as mentioned above.

Relative and absolute dating is used to inform the chronological order of the vessels. This section considers relative dating, where classified vessels are respectively disposed in time axes by seriation. It can be defined as "*a technique that seeks to order artifacts 'in a series' in which adjacent members are more similar to each other than to members further* *away in the series*" (Sharer and Ashmore 2003: 315). Seriation has been generally regarded as "*a descriptive analytic technique*" (Marquardt 1978: 258) with two main methods: "*Evolutionary*" and "*Similiary*" (Rowe 1961: 326).

In the former, artefacts are arranged in chronological order, based on a rule of development. In other words, the developmental concept places importance on "*increases in technological complexity through time and artistic shifts in motif from naturalistic to stylized designs*" (O'Brien and Lyman 1999: 65). However, it is uncertain if the concept is applicable to any typological changes of artefacts, therefore the "*Evolutionary*" seriation has tended not to be utilized for considering chronological sequences of artefacts (*ibid.*: 65). Given this, the above case studies avoided using the "*Evolutionary*" seriation for constructing relative chronologies of pottery.

As opposed to the former, the latter has no rule of development in typological changes of artefacts. It is generally adopted in artefact studies, can be further separated into three approaches: "*Frequency seriation*", "*Occurrence seriation*" and "*Phyletic seriation*" (*ibid.*: 64). "*Frequency seriation*" is based on one of the most common assumptions of changes in popularity of artefacts. In other words, most artefacts are newly produced, become popular gradually and less popular slowly as time goes by. Quantified data of artefacts can represent this circumstance with 'battleship curves' (*e.g.* Adams and Adams 1991; O'Brien and Lyman 1999). "*Occurrence seriation*" determines orders of assemblages in time axes, using the information on presence and absence of artifact types in individual assemblages (*e.g.* Sinopoli 1991; Orton *et al.* 1993). The results are useful for considering relative relations in time axes between artefact types. These two seriation methods have been traditionally adopted for constructing relative chronologies of artefacts, but appear to become unpopular because of their drawbacks. Especially, the issue on sampling of artefacts always should be taken into account (O'Brien and Lyman 1999: 125-30). It is often difficult to obtain an adequate amount of appropriate data from limited excavations. Furthermore, relatively simpler structures of assemblages are more desirable for using the seriation methods as a large number of studies show. Complicated assemblages composed of a variety of types do not easily allow these methods to be effective for arranging artefact types in time axes. These situations were also identified in the above case studies.

"*Phyletic seriation*" can be defined as "*a chronological line of suspected heritable continuity rendered as similarity, but no rule of developmental direction*" (*ibid.*:1999: 64). This method was invented by William Matthews Flinders Petrie in 1899 and 1901 (*ibid.*: 84-7; Sharer and Ashmore 2003: 316 *etc.*), and his work also included the "*Occurrence seriation*" (Renfrew and Bahn 1996: 117). Petrie focused on changes in ceramic handles for constructing a chronological scheme of vessels from pre-dynastic burials in Egypt. Based on the analysis, he inferred that the handles had transformed from "*functional*" to "*decorative*" (O'Brien and Lyman 1999: 84-7, see Figure 7.1). Unlike the other seriation methods, there is no need for this approach to rely on assemblages from stratified contexts and features, or on large quantities of same-typed vessels. Rowe (1961: 326) highlighted the significance of chronological arrangements of artefacts based on logic in seriation. Therefore, the "*Phyletic seriation*" method seems to be more useful than the others for arranging Iron Age vessels in time axes, especially given the limited archaeological evidence. It is unlikely that the detailed aspects of ceramic shape changes have been clearly recognised in existing typological studies of Iron Age vessels in central-southern Britain. However, as reflected in the case studies of Chapters 5 and 6, this method provided many examples of these changes in various *forms*.

Once arranged in time axes, the types of the vessel *forms* are examined considering their chronological order, identifying which edge of each time axis is early or late. In terms of relative chronological order, this examination is mainly based on the vessels' stratigraphic information. Although the absolute dates of vessels are helpful for identification, stratigraphic information will be examined in this section. The stratigraphic information clarifies relations between layers, contexts and features. However, there are a number of requirements when it is used for considering relative chronologies. First, there should be many stratified deposits, including diagnostic artefact parts, such as ceramic upper bodies, in perfect profile. This allows us to examine the relative relations in chronology between various types of the vessel *forms*. Secondly, needless to say, the stratigraphic information should be based on careful excavation and accurate recording. This information should be presented in published sources with easy access. Finally, it is preferable that the stratified deposits are not considerably damaged and disturbed by human and natural activities. This condition is highly important for identifying appropriate relations between artefacts in their chronological order.

I will consider these points as I examine the actual circumstances of the information on stratigraphy of Iron Age sites in central-southern Britain, focusing on the sites of the case studies addressed in Chapters 5 and 6. According to this examination, the usefulness and problems of their stratigraphic information will be considered. Related issues, such as the presentation of the information and various depositional circumstances of artefacts, will be also discussed.

7.2.2 Examination of the stratigraphic information of the Iron Age sites

7.2.2.1 Danebury

Danebury is one of the most distinguished excavation reports dealing with Iron Age artefacts and settlements in central-southern Britain (*e.g.* Haselgrove 1986: 363). A vast variety of information on archaeological evidence was produced and discussed in five volumes (Cunliffe 1984a, 1984b, 1995, Cunliffe and Poole 1991a, 1991b). The matrix diagrams of the stratigraphic sequences in the individual excavations form the main sources of stratigraphic information (Cunliffe 1984a: microfiche 6, Cunliffe and Poole 1991a: microfiche: 25-6). Plans and sections of features were presented in each different phase and correlations between sequences were also available from the reports (Cunliffe 1984a: 172-3, Cunliffe and Poole 1991a: 228-230).

However, more than 40% of the vessels selected for the typological classification had no location information in the reports and microfiches. Information on pots presented in the reports was relaased on *The Archaeology Data Service (ADS)* for public consumption. However, this database had serious problems which did not allow the missing stratigraphic information to be identified. Because of this situation, access to the primary archive on pottery from Danebury was required. My study was based on the readily available information from published sources, used to discover useful approaches for the re-examination of typological studies of Iron Age pottery by a number of archaeologists. However, the material from Danebury was highly important because of its influence on pottery studies in central-southern Britain. Consequently, this research has meant that now only 10% of the vessels have unidentifiable stratigraphic information.

The re-examination of stratigraphy showed that more than 80% of the vessels had been found from pits. According to the reports (Cunliffe and Poole 1991a, Cunliffe 1995), well-stratified sequences were available from the peripheral areas of the settlement, where there were few pits. Thus, a majority of vessels for the typological classification were not examined using stratigraphic relations. It was thought that the information on inter-cuts between the pits might be useful for constructing a relative chronology of vessels. However, only three pairs of features associated with the vessels were available from the reports. In addition to the paucity of samples, the typological classification was not effective for examining typological change in the time axis. This situation was potentially caused by three cases: 1) a variety of vessel *forms*; 2) a small amount of vessels; and 3) materials composed of similar shapes.

The feature information defined mainly from the stratigraphic diagrams provided data for considering the relative chronological order of vessels. The data consisted of 65 features and layers, although the information associated with the vessels was mostly unavailable from the matrix diagrams. This might affect the typological and chronological examinations of the vessels. Another problem was the difficulty in identifying the accurate correlations between the sequences. The main reason for this was that the correlations between the stratified sequences were unavailable from the reports. The correlations were based on radiocarbon dates and *ceramic phases (cp)* produced in the report (Cunliffe 1984a: 172). Thus, it appears that information was withheld for both stratigraphic periods with finds useful for dating and those without. Because of these problems, the information on the stratigraphic relations between features and layers in the stratified sequences was significantly limited. However, the information provided several useful suggestions for considering the relative chronological framework of the vessels. There were also problems with the reports' stratigraphic data for analysing differences in layer within features. This did not enable the vessels to be sufficiently arranged in relative chronological order. The problems could be separated into two categories: 1) a small amount of vessels available from one feature, and 2) difficulties in comparing them between layers within a feature. The latter problem has three facets: 1) that one layer within a feature produced all vessels selected for the analysis, 2) that the same types of *forms* were found from different layers within a feature, and 3) that the numbers of vessels or few layers for comparison were inadequate for comparison between them.

In terms of the relation between stratigraphy and radiocarbon dates, a significant amount of data was unavailable from the reports. There were 21 usable samples from Sequence A (Excavation 1977-78) and Sequence B (Excavation 1973-75). There were also problems with the correlation between stratigtraphy and radiocarbon dates for considering ceramic chronologies. One problem was that the absolute dates from the *phase i* samples in Sequence A tended to be later than those of the stratigraphically later phases, such as *phase k* and *l* (see Table 5.51). Some of the sample dates may have been affected by irregular situations, such as incorporation and residuality. The sample dates of *phase c*, *h*, and *k* showed significant differences within each phase. These problems caused difficulty in considering a ceramic chronology by use of the radiocarbon dates. The issue on usage of radiocarbon dates will be further discussed in the next section of this chapter.

The stratigraphic information associated with Iron Age pottery uncovered a number of difficulties and problems in constructing a ceramic chronological framework. The inappropriate condition of the stratigraphy of many features was likely to be one of the main causes, as noted in the report (Brown 1995: 59). However, other possible causes should be considered which could lead to the improvement of these problematic issues. For instance, because of the condition, dating of features in the reports seems to have basically relied on the *ceramic phases* published in the 1984 report. However, this method confronted problems and inconsistencies with the assigned phases of features and the ceramic phases themselves, and have been critically assessed in recent studies (*e.g.* Collis 2008: 86). Gary Lock (1995) used statistical methods with *Minitab statistical software* to re-examined the relation between the ceramic phases and the stratigraphic phases of pits to identify more accurate phases. The result of this re-examination revealed that the phases of 542 pits out of 2,308 samples in total (23.5%) had been assigned without specific problems (*ibid.*: 123). In other words, this suggested that there were serious problems with the dating of the features which had relied on the ceramic phases. This result highlighted how the stratigraphic information could affect the dating (Lock 1991, *ibid.*). In addition, the re-examination of the stratigraphy casted doubt on the definite classification between *ceramic phases* 4 and 5 (Lock 1995: 118). Following this suggestion, Lisa Brown (1995) examined the validity of the phases, focusing on the representative ceramic types of the phases, such as JC1 and JB4. It was first stated in her study, that *ceramic phase* 4 was regarded as an unreliable chronological stage, although *ceramic phase* 5 composed of specific types of vessels, as noted in the report of 1984 (*ibid.*: 246). This statement appears to suggest that the uncertain division between the phases was recognised. In terms of the validity of this two-phase period, it was clarified that the high percentage of the representative ceramic types, more than 70%, had been found from the contexts of the later phases than *ceramic phases* 4 and 5 (*ibid.*: 246-7). According to this fact, the study considered that the period of the two phases was unlikely to constitute a distinctive part of the chronological framework. Considering these situations, it should be noted how excessive reliance on a specific ceramic framework can result in inaccuracy.

7.2.2.2 Hengistbury Head

There was little information on vessel stratigraphy available from the excavation report and the microfiches, as indicated in the report (Brown 1987b). This suggested that the vessels' stratigraphic circumstance had been inadequate for arrangement in relative chronological order due to the soil disturbance of the site in later ages (Cunliffe 1987: 78-9). However, I re-examined the information on the stratigraphy involved with the vessels typologically classified in Chapter 5, in order to confirm if there are useful clues for identifying a relative chronological relations between them. The stratigraphic sequence of Hengistbury Head was divided into 11 periods in the report (Cunliffe 1987: 116-28; see Table 5.19). Based on the comparison of this phase division with the stratigraphic relations between contexts and features (see Figure 5.21), the Iron Age vessels' stratigraphy was obtained. This information was used to arrange several vessels in relative chronological order. However, there were no clear correlations between the stratigraphic phases and the vessel *forms*, which were established in the case study. In terms of their change in shape, certain trends were identifiable. For example, over time the vessel shoulders in the major types of the *forms* became rounded and high. This was based on a comparison between the vessels in the later period (Phase D) and those from the earlier layers (Phases C and A). At the same time, their ceramic rims became relatively small or minimal in the later period. However, it was very difficult to present the definite vessel criteria for the division between the phases. It is generally thought that such identifiable factors represent gradual change through the age, unless a dramatic modification of the vessels' shape was required by the potters for specific reasons. In order to identify chronological interfaces between ceramic types in these factors, there should be adequate amounts of material. Sufficient quantities of data allow the factors to be analysed by frequency seriation, which is one of the methods for identifying such interfaces. However, according to the examination in Chapter 5, such amounts were unavailable. Furthermore, the factors represented a vast variety of shapes and it was highly difficult to analyse them statistically. For these reasons, it is unlikely that a useful relative chronological framework of the vessels, based on the reports' stratigraphic information, can be produced.

Because of this stratigraphic situation, it seems that the report utilised the existing ceramic chronological scheme and classification system of Danebury, which had been produced in 1984 in order to allocate historical phases to layers, contexts and features (Brown 1987a: 207). This could be acceptable as one means for understanding developments of individual settlements. However, it should be based on an appropriate chronological scheme of vessels which is basically consistent in relation to the stratigraphy. This was not the case with the vessels from Hengistbury Head. For example, vessels regarded as the earlier Late Iron Age (L1), ceramic Nos. 1256 and 1257, were found from a feature belonging to a layer of the Early and Middle Iron Age (Phase A; see Table 5.51). This suggests that the application of the existing ceramic chronological system to this site's material was inappropriate in certain cases. Another possible cause of the inconsistency is that the categorization of the vessels into their ceramic types was irrelevant. The problems with existing studies of ceramic chronology and typology were discussed in Chapter 4 and the previous section of this chapter, using a number of examples. The recording of the features and contexts might not have been properly made during excavation and the subsequent publication may reflect this. It is highly possible that this situation was caused by the disturbed nature of the site's stratigraphy. However, there were only two examples which highlighted this stratigraphic incoherence between the *ceramic phases* and their stratigraphy. Consequently, it is very difficult to further develop the discussion, and more information on the relation between the stratigraphy and the ceramic types is needed.

To sum up the issue on the stratigraphy of Hengistbury Head, the information on the stratigraphy is not useful for arranging the vessels in time axes. This is caused by the paucity of information due to the poor condition of the stratigraphy. Therefore, in order to construct the chronological framework of the vessels, data derived from absolute dating should be used with vessels from adjacent sites. Unfortunately, there is little useful data on the absolute dates available from the report. A number of imports from the continent, such as metal objects and *amphorae*, were found from the site in the excavations. However, they were not effective for dating the vessels in detail, because of the inadequate stratigraphic situation. For this reason, it appears that the report adopted the existing ceramic system of

Danebury for the Iron Age vessels. However, there seem to be serious problems with the system itself, as discussed in Chapter 4. It should be also noted that there are significant problems with the system of vessel categorisation in the previous section of this chapter.

In terms of the application of the Danebury system, there are specific issues to be re-considered in the material of Hengistbury Head. As mentioned in the report (Brown 1987b: 208), there are a number of different ceramic types between Danebury and Hengistbury Head. For instance, *Form* JD4, BD1 and BD3 are not present in the ceramic assemblage of Danebury, but occur at Hengistbury Head. It could be theoretically possible for the vessels to be classified by the Danebury system. However, there is no specific explanation as to how they related to the ceramic types existing in the Danebury assemblage. Hence, the ceramic classification addressed in the Hengistbury Head report is uncertain. In addition, there is inconsistency between the same-type categories of these sites. For instance, in the case of BD2, several attributes in the form definitions are different between the reports. The ceramic dates of BD2 are also different between them: cp 8-9 (50BC-AD50) in the Danebury report (Cunliffe 1984: 293) and LIA1 (100-50BC) in the Hengistbury Head report (Brown 1987a: 211). If the existing scheme needed modification, specific explanations should have been provided in the latter report. Furthermore, despite the lack of useful data on absolute date and information on stratigraphy, chronological phases were allocated to the various categories of vessels which were not present in those of Danebury (Cunliffe 1984: 207-13). The phases are EIA (*c.*800-400 BC), MIA (*c.*400-100 BC), LIA1 (100-50 BC) and LIA2 (50 BC-AD 50) (Cunliffe 1987: 79). A small part of the ceramic assemblage, which exists in that of Danebury, might be able to allocate these phases to some extent through the use of radiocarbon dates (Cunliffe 1984: 242). However, there appear to be problems with the dates, as demonstrated in the case study of Danebury of Chapter 6 and the next section of this chapter. Unlike the Danebury assemblage, a large part of Hengistbury Head assemblage is likely to be composed of imports from Armorica in the Late Iron Age (Cunliffe and Brown 1987: 310). According to the report, it is likely that their chronology can be inferred before and after the first century BC due to the large number of *amphorae* of *Dressel 1A* type found from Hengistbury Head and the broader chronology of La Tène III vessels in north-western France (*ibid.*). However, there are no specific examinations of the ceramic chronology in the French area in the report. The criteria for the division of the assemblage into LIA (100-50 BC) and LIA2 (50 BC-AD 50) are also uncertain. This uncertain circumstance applies to a section of the local pottery of the Late Iron Age found from the site. Considering the uncertainty in the settlement's interpretation, the chronology appears to rely on historical sources and related study rather than on typological classification of the vessels and other archaeological evidence. For example, although the report referred to the popularity of the Durotrigan pottery in LIA2, a speculative chronology of the pottery group was proposed by the comparison of the distribution between the group and the coinage of the Durotriges (*ibid.*: 319-21). This study by Cunliffe (1978: 83-114) was based on the conventional division of the Late Iron Age (Cunliffe 1991: 107), a division which regards the campaign period of Julius Caesar, 55 and 54 BC, as a turning point in the period. There are likely to be problems with such an approach, not only for parallels between ethnic groups and pottery groups, but also for dating vessels (*e.g.* Collis 1977, Jones 1997).

7.2.2.3 Suddern Farm

The excavation report and the attached fiches presented the ceramic illustrations of stratified assemblages found at the site (Brown 2000b: 103-9). Seventeen assemblages were selected for typological classification in Chapter 6's case study. Using the Danebury scheme (Brown 2000a: 85), all assemblages were assigned particular phases in the report. Consequently, the allocation of phases allowed Suddern Farm's the material to be easily compared with Danebuy and other Iron Age sites in the Andover area. This idea is useful for comparing ceramics between sites, including their characteristic attributes and chronologies. However, as noted previously, there are serious problems with the Danebury scheme and thus its application of to other sites. Hence, the vessels' chronological allocation needs to be re-examined. Furthermore, the stratigraphic condition was inappropriate for considering the relative associations of vessels in time between layers, contexts and features. This was demonstrated in the case study of Chapter 6 where, for example, F64 is a deep V-shaped ditch with distinctive layers. The stratigraphic situation appeared to be proper for arranging vessels in relative chronological order as the layers were not terribly disturbed and contained vessels which could be compared. However, there was serious difficulty in defining specific transitions of ceramic shapes through comparison between the vessels and their stratigraphy. In one case, the vessels from different layers were similar to each other; in another, they were incomparable with each other as they were composed of clearly different types of ceramic forms. In addition, data on the vessels' absolute dates were unavailable from the excavation. For these reasons, it appears that the ceramic scheme of Suddern Farm adopted the Danebury scheme, which had been regarded as one of the most useful and reliable schemes in the existing ceramic schemes of central-southern Britain (*ibid.*: 85).

The chronological sequence of features, based on the Danebury scheme, was also considered in the report (Cunliffe and Poole 2000c: 46-9). However, there seemed to be inconsistency in the relation between the assigned chronological phases and the stratigraphy of features, as seen in the case study of Suddern Farm. This can be summarised as follows: there were four problematic spots in trench 1, where there was incoherence between the plan of all features in trench 1 (*ibid.*: 25, see Figure 7.2) and the allocated phases of features (*ibid.*: 47-8, see Figures 7.3, 7.4). For instance, P220 and P221 are cut by P150/P212 in the plan of all features. Hence, the period of P220 and P221 should be earlier than that of P150/P212. However, according to the phase plans, the period of P150/P212, belonging to the period between cp 1/2 and cp 3-4, were regarded as earlier than that of P220 and P221, which were conceived as cp 8-9 (see Figures 7.3, 7.4). The relation between the features in the pit sections presented in the report is highly vague (see Figure 7.5). If the layer numbers represented the order of the layer deposits, the period of P221 is later than that of P212. This case is inconsistent with the plan of the features, and it seems that this contradiction was caused by the use of the Danebury's problematic ceramic scheme. Furthermore, it is possible that the application of the scheme, especially the categorizing of vessels, also compounded the inconsistency. The heavy reliance on the scheme without careful examination of stratigraphy could also be one of the causes of incoherence. Finally, there may have been problems with the excavation methods and the recording.

7.2.2.4 Other sites

Bury Hill, Nettlebank Copse, Houghton Down and Woolbury were excavated as parts of *The Danebury Environs Programme*, with their results published in the same manner as Suddern Farm (Cunliffe and Poole 2000abde). Hence, the information on Iron Age pottery and the ceramic illustrations of stratified assemblages found from the sites was also presented in their excavation reports and attached fiches. However, it seems that each report adopted a slightly different system in terms of the stratigraphic information and the presentation of stratified sequences of features. In many cases, the stratigraphic relations between features producing vessels are unknown.

The Bury Hill’s report presented a stratified sequence alongside ceramic assemblages (Cunliffe and Poole 2000b: 40-3). However, not enough vessels were available for considering their relative chronological order. A total of 33 were selected for examination. According to the report, the assemblages were separated into five phases. The main-typed *forms* of the selected vessels tended to show similar characteristics between different phases. In terms of the other minor-typed forms, comparable materials were unavailable. The vessels were found from various features, including pits. However, the vessels, which were not associated with the contexts in the stratified sequence, accounted for about 80% of the whole ceramic assemblage from the site (*ibid.*: 39). This circumstance allowed only a small quantity of the vessels to be compared stratigraphically. It is highly possible that specific typological changes in ceramic shape were not identifiable between features and between layers in each feature, because of the small quantity.

The ceramic materials of Nettlebank Copse and Houghton Down were better represented in the reports (Cunliffe and Poole 2000de). The former had 174 vessels available for analysis, the latter had 72. In terms of the stratigraphic information and its use for considering the vessels’ relative chronologies, the circumstances of both sites were similar to each other. The data on stratigraphy was not useful enough for arranging the vessels in relative chronological order. This was due to the uncertain relations in the stratigraphy between the features of the stratified assemblages. Because of this circumstance, it was unfeasible for the vessels to be compared between the features. Dating the features in the report appeared to rely on the chronological scheme of Danebury, as well as the other sites of *The Danebury Environs Programme*. The difference in layers within each feature was also ineffective for constructing the relative chronologies of the assemblages either. The reason for this can be summarized into four parts:

- Few comparable vessels between layers were available from individual features;
- There were few different layers producing vessels in each feature for comparison;
- Most of the same-typed *forms* of vessels from different layers in a feature had no specific differences in detailed shape;
- Various *forms* did not allow the vessels to be compared between layers in each feature.

A few examples revealed that the vessels from different layers in a feature might show typological change in their ceramic shapes, such as on rim or upper body shapes. This demonstrates the importance of examining vessels between layers in a feature for considering relative chronological order, even if they were regarded as one stratified assemblage in excavation reports.

The amount of the stratified assemblages of vessels from Woolbury was very small, with only 36 vessels available for typological classification (Cunliffe and Poole 2000a). This small amount did not allow comparison between the same-typed *forms* produced in the typological classification. The ceramic assemblage contained a variety of the *forms*, so even well-stratified features such as F1 (fort ditch) and Enclosure 1 were ineffective for considering the vessels' relative chronological order. The stratigraphic relations between the other features, including pits, were also unknown although each feature had been allocated a ceramic phase from the Danebury scheme. The uncertainty of the stratigraphic relations was likely to be another source of the difficulty in comparing the vessels.

The report of Balksbury Camp presented little stratigraphic information which would be useful for assessing typological change in ceramics. The stratified assemblages, called *key groups*, were presented in the report and were based on site phases, such as "*Early to Middle Iron Age*" and "*Middle to Later Iron Age*" (Rees 1995: 70-9). The phase division was established by the application of the Danebury scheme (*ibid.*: 70). The dating of features discovered on-site used the phase division (*ibid.*: 113-4). Given this situations, it is unlikely that the stratigraphic examination between the features could identify ceramic relations in relative chronological order. The reason for this might be that the statigraphic condition was inappropriate for the settlement's phase division as there was no specific discussion on stratigraphy in the report. In terms of feature specific stratigraphy, it was uncertain from which layer within each feature the vessels of the *key groups* had been found. Consequently, it is not possible to compare materials between the layers of each feature.

The Old Down Farm's report has the same problems as that of Balksbury Camp. Little information on stratigraphy between vessel-producing features was available from the report. Although the chronological phases of the settlement were presented in the report (Davies 1981: 83), there was no specific explanation about the method and process of the creation of the phases. Theses appear to have been produced by comparison between vessels found from Old Down Farm with those from other Iron Age sites in southern Britain. In other words, the dating of the vessels was inferred from existing chronological schemes without specific examination of the stratigraphy. Another issue was that the difference in the layers within the individual features had rarely been taken into consideration. Consequently, examination of vessels based upon this difference was unfeasible, although vessels were available from each of the several features.

7.2.3 Presentation of archaeological information

The above examination of the Andover area reports and the Hengistbury Head's report revealed that there were a number of problems when stratigraphically assessing Iron Age vessels. In terms of the Danebury reports, which produced more detailed information on stratigraphy than the other reports, two main problems associated with stratigraphy should be highlighted, both of which are likely to be applicable to the other sites' reports.

One problem is the availability of vital information on vessels from published and electronic sources, such as CD-ROM's, the *Archaeology Data Service* and the archives. The information appears to be composed of two points: 1) where the vessels were from; and 2) the nature of stratigraphic relations of the vessels between features and between contexts. A large part of this site information was not presented in the public sources, while the electronic resources contained serious errors. Access to archives was also restricted. Consequently, many parts of the information were unavailable from the archives, even with the help of the archaeological service staff. These possible problems were considered by *The Prehistoric Ceramics Research Group* (1991: 8), and the guidelines to be addressed, whilst clearly stated, are unlikely to have been followed by a number of archaeologists. These problematic situations must be rectified as quickly as possible, to enable re-examination of the existing data and studies through different methods.

With regards to the published stratigraphic information, their presentation was notably complex. It was particularly difficult to identify the correlation between features, contexts and layers, and the stratified phases. One of the main reasons for this was that the huge quantity of the information for identifying the correlation, which had been produced through *c.*20 years of the excavations, was disorganized and dispersed throughout the reports and microfiches. For example, the reports cited where, which contexts, features and layers the vessels of stratified groups had been from; however, where the features and contexts producing the vessels had been located in the stratigraphic sequences was unclear. In order to identify the location, complicated matrix diagrams of the sequences were first searched. When that essential information was unavailable, many sections and plans presented in the reports were examined. Identifying whether each piece of the essential information associated with the vessels was available from the published sources was significantly time-consuming. These circumstances cause difficulty in re-examining artefacts' stratigraphic relations by archaeologists not involved in the excavations. This could also lead to the importance of the stratigraphic information being neglected. This difficulty has caused a paucity of distinctive studies for the re-examination of ceramic chronological frameworks based on stratigraphic relations between features, contexts and layers. However, it seems that problems caused by stratigarphic circumstances, residuality and deposition for example, have been noted and considered (Evans and Millett 1992: 225; Haselgrove *et al.* 2001: 18). This issue, which is a problem for stratigraphic information associated with Iron Age vessels, will be considered in the following section.

In order to understand and interpret excavated sites, information on time and space is fundamental. Therefore, the data on correlation between stratigraphy and location, where artefacts were found, should be provided in published sources for easy access by both archaeologists and the public. The presentation of such data can be regarded as one of the '*minimum standards of recording and publication*', the necessity of which was required in a recent agenda concerned with British Iron Age studies (Haselgrove *et al.* 2001: 15). In the case of the Danebury reports, a number of matrix diagrams of stratigraphy were presented on microfiches. However, they were not easily visible on many spots, because many letters written in the microfiches were minute and blurred, even when using a microfilm reader. Furthermore, the surfaces of the microfiches had suffered a large number of scratches, a side–effect of their nature. In addition to these problems, the declining availability of machines for reading microform materials is another potential issue for information accessibility. Given these problems, web sites and CD-ROMs are useful ways of storage and presentation of archaeological information (*e.g. ibid.* 2001, Roskams 2001). The *ADS* is an effective example of this process. However, as indicated above, there were serious problems with the Danebury pottery data, which are likely to need much revision. This situation emphasises the importance of effectively releasing archaeological data and the necessity for systems that can cope with such problems.

In presenting the correlation between stratigraphy and related artefacts, vital information useful for archaeological studies, such as stratified assemblages, diagnostic and illustrated sherds, should be provided in published sources. This allows important artefacts to be examined relative to time. As for ways of presenting the correlation, it seems to be preferable that both explanations and illustrations about stratigraphy are presented alongside those of the related artefacts. In other words, both the explanations and illustrations of contexts, features and layers should be produced in each stratified phase, in order of stratification. Then, they can be accompanied by those of the associated artefacts. The Danebury reports were clearly separated into the site sections and the find sections: the former was composed of Volumes 1 and 4; the latter Volumes 2 and 5. It is likely that this separation for publication has been adopted in a number of cases (Hills 1993: 221). This may have caused difficulty in considering the correlation between stratigraphy and the related artefacts. Although the explanations of the startigraphic sequences were given in the site sections, they were limited excavation areas and only selected features. This is inadequate for re-examining a large number of the correlations between the stratified phases and the artefacts found from diverse contexts and features. In order to allow the re-examination, a presentation method based on collaboration between stratigraphy and artefacts appears to be useful. If this is unfeasible, lists of correlations between stratigraphic sequences and artifact locations should be produced. This theoretically ought to enable us to undertake a re-examination (*ibid.*: 221). Regarding presentation of the stratigraphic sequences, the *Harris Matrix* method (Harris 1979: 86-91), which can represent detailed stratigraphic information, is likely to be effective in understanding processes of stratification at sites, as shown in the Danebury reports.

There are a number of mistakes in the presentation of archaeological evidence in the Danebury reports, although the reports should be generally regarded as '*high standard*' (Haselgrove 1986: 368). For example, Pit 7 was assigned to *phase i* in the matrix diagram for the 1969-71 sequence, presented on the microfiche (Cunliffe 1984a: microfiche 6). However, the report showed that it had been a feature of *phase k* (*ibid.*: 171). There is also incoherency in the correlation between the excavation years and the sequence alphabets (Cunliffe and Poole 1991a: 228). Moreover, several of the identification numbers of the microfiches are inconsistent between them and their content lists on the reports. In the section on radiocarbon age assessment, there is a pair of the same identification numbers (HAR-2034) in the list of samples for radiocarbon dating, and there is an irregular number (HAR-4368) in the sample arrangement in numerical order (Cunliffe 1984a: 191). In addition, the illustrations lack scales for the stratified ceramic groups presented in the microfiche (*ibid.*: microfiche 1: E2-3). The scales produced in microfiches are especially important for acquiring the measurement data of ceramics. The printing of artefact illustrations from the microfiches is required for measuring the essential points. However, upon printing, slight alternations in the direction and focus of the micro-film reader can alter the scales. Consequently, the usage of microfiches for artifact illustrations should be avoided as far as possible to minimize this occurring.

Basic quantitative ceramic data tends to be unavailable from British excavation reports, particularly those dealing with the Iron Age. However, the importance of the statistical studies on the data of Iron Age pottery has been noted (Haselgrove *et al.* 2001: 15). As seen in specific studies (Woodward 1997, Woodward and Blinkhorn 1997; Hill 2002; Pope 2003 *etc.*), statistical data analyses have revealed a variety of the characteristic aspects of pottery. Although there are likely to be critical opinions against wasteful presentations of ceramic illustrations (*e.g.* Sharples 1987: 508), only the illustrations can bring statistical data to ceramic studies under the current publication system of Iron Age excavation reports. Therefore, adequate presentation of accurate vessel illustrations should be needed for developing ceramic studies. However, as the illustrations are generally scaled down, it is difficult to gain accurate measurement values from the illustrations. Furthermore, it is time-consuming for a number of ceramic specialists to collect such the data. For these reasons, it is preferable that the important data on ceramic measurements, such as rim diameters, max diameters and heights, is produced with lists of the data in tables. Every and Mepham (2008: 55) presented information on ceramic rim diameters from Iron Age sites surrounding Battlesbury Hillfort, Warminster. However, this was produced by the unique analysis of counting primary data, meaning that the quantitative data does not allow re-examination by ceramic researchers. Thus, the sole presentation of the data, which had been already analysed in the report, is inappropriate for fully developing new studies, though it is useful to some extent.

One of the most important aims of publishing excavation reports is sharing archaeological evidence and information with researchers and the public. Excavation inevitably leads to destruction of archaeological sites, which precludes their recovery in the same conditions before the excavations. Therefore, archaeologists involved in excavations are required to release information to the other archaeologists, and the public, in manners which enable its re-examination. Archaeologists involved in the excavations can properly organize and reconstruct a site's excavation. Needless to say, archives and recordings of excavations are also important archaeological information, as they include primary data available from excavations. However, they are likely to be unorganised and non-specialists may find them difficult to understand. Similarly, archaeologists may misunderstand parts of the archived information and create inaccurate studies. This scenario is feasible given the nature of archives. Furthermore, in terms of access, archives are quite inconvenient and time-consuming for many researchers. This can evidently cause stagnation and deterioration in associated archaeological studies. As a consequence of these potential problems with archives, adequately organised reports are needed for effective use of archaeological information. Accessibility to fundamental data and useful information is also crucial for appropriately developing archaeological studies (Rauxloh 2000: 216).

These problems with British excavation reports began to arise in the 1960s the increase of excavations in the period produced a huge amount of detailed information on sites and artefacts (Hills 1993: 217). Following this, the *Department of the Environment* (1975, 1982) discussed the problems, followed by *English Heritage* (1989, 1991; Andrews and Thomas 1995). Interestingly, Cunliffe engaged in the latter report by *Department of the Environment* (1982), and highlighted the importance of selectivity of data based on research designs (Andrews and Thomas 1995: 192).

His concept of the selectivity of the data was clearly reflected in the Danebury reports which were published after the *Department of the Environment* report. Although this concept seems to have influenced much subsequent discussion (*ibid.*: 192), my examination, shown above, has revealed serious problems with this methodology. In the case of the excavation reports for Iron Age Britain, they are likely to omit a large part of fundamental data on artefacts, starigraphy and the correlation between them for various reasons. This is clearly seen in the excavation reports of Danebury and Hengistbury Head, which must have produced a huge quantity of the archaeological evidence and complicated information. Reports without fundamental data can prevent archaeologists from re-examining and developing a variety of studies based on valid archaeological evidence. Many of the reports have provided their own interpretations of the sites and artefacts with the inadequate presentation of such the fundamental data. Subsequently, archaeologists have had to follow interpretations made without full knowledge of the data. This point can be tentatively connected to '*dangers*' in the '*disintegration*' of the division of site sections and artefact sections in published excavations (Hills 1993: 221). It is feasible that archaeologists access archives and recordings of excavations for re-interpreting sites. However, there have been comparatively few re-examinations, particularly with the correlation between stratigraphy and artefacts including ceramics. In other words, re-examination based on access to archives and recordings tends not to be undertaken in practice, because of the problematic nature of them. It seems that these situations clearly emphasise the importance of the presentation of fundamental data.

With research designs, the expense of research has often been cited, for the publication of excavation reports (*e.g.* Haselgrove *et al.* 2001: 15). However, this is not necessarily an appropriate reason for not releasing archaeological information. The cost of dissemination should be sufficiently taken into consideration before undertaking research. Assignments of expenditure for excavation, arrangement and analyses of archaeological materials and records, and publication, should be carefully considered. In relation to this issue, the *Department of the Environment*'s 1982 report, produced by Cunliffe, warned against over-excavation (Hills 1993: 218). In cases of rescue excavation caused by development, there may be more problems with funding and time for excavations, as well as the publication of reports. Therefore, the role of academic research, which may spend comparatively more time and money, appears to be crucial for improving the guidelines of archaeological projects. The distinguished achievements of research can bring more effective methods and can provide appropriate estimates of funding and time for the projects.

It seems that the role and significance of excavation reports should be re-considered based on the differences in published reports and in archives and recordings. This leads to the logical question of what data and information should be produced on excavation reports. A majority of the existing reports were seriously problematic, for re-examining important archaeological data, including the correlation between stratigraphy and artefacts. As the fundamental data supports most archaeological studies, it seems that it should be a priority to publish on readily available public sources, as excavation reports, CD-ROMs and web sites. The release of such data enables archaeologists and the public to re-examine the existing interpretations of sites and artefacts, based not on the analyses of the authors of the published sources, but on the primary archaeological evidence. This circumstance appears to be significantly important for developing archaeological studies, as well as other disciplines which are based on primary data with open and easy access.

7.2.4 Residuality and deposition

Another problem with stratigraphic information for typological and chronological studies of Iron Age pottery is residuality and deposition of ceramics. Ceramics were manufactured at certain points in the Iron Age and then deposited through their long and complex processes. Such processes are likely to depend on various conditions associated with ceramics, such as location of sites, human activities and the nature of ceramics themselves. Also, the information gathered during excavation depends upon the conditions of the site, expertise and publication.

The study of site formation and depositional processes of archaeological materials was developed mainly by Michael Schiffer (1972, 1976, 1987 *etc.*). He first divided the site formation into two types: culture and non-culture. The cultural formation processes consist of various human activities from site occupation until the present time, which can affect ways of existence of archaeological materials. The processes in prehistory are mainly approached through archaeology (Schiffer 1972: 156). Meanwhile, the non-cultural aspects have been addressed in cooperation with other disciplines of science. The non-cultural formation processes includes a variety of natural events, such as erosion, weathering and actions by plants and animals. These also can move, destroy and preserve artifact materials. Thus, two specific stages were assumed in the cultural formation processes of artefacts and were defined by Schiffer as follows:

> "*Systematic context labels the condition of an element which is participating in a behavioral system. Archaeological context describes materials which have passed through a cultural system, and which are now the objects of investigation of archaeologists*" (*ibid.*: 157).

Based on this division in the life-cycle of the artefacts, their modeled processes were produced (*ibid.*: 162, see Figure 7.6). In terms of interpreting the condition of the artefacts as archaeological evidence, the different cases of "*refuse*" in the "*archaeological context*" must be considered. Notably, "*secondary refuse*" can be thought to be the most important and complex case (*ibid.*: 162; Wilson 1994). Seemingly, the concept of "*refuse*" allows us to understand the formation processes of artefacts and to construct their relative chronologies based on stratigraphic information. However, the difference between "*primary refuse*" and "*secondary refuse*" means that the former is highlighted at the latter's expense (Schiffer 1972: 161). This is best seen in the "*location of use*" for artefacts. In other words, it seems that the study tended to focus on the spatial aspects of artefact deposition. The aspect of time was taken into consideration in Carver's subsequent study (Carver 1979: 8), followed by a more balanced and detailed model of ceramic assemblage formation processes proposed by Millett (1987; see Figure 7.7). These theoretical discussions influenced ethno-archaeological studies, which provided informative examples for considering processes, like deposition and post-deposition of artefacts (*e.g.* Hodder 1982: 47-67). However, there have been few examinations of such the formation processes in the ethno-archaeological studies of "*sedentary*" and "*agrarian societies*", which should be useful for considering site formation processes of Iron Age Britain (Hill 1995a: 3).

According to theoretical discussions, many practical studies related to the formation processes of artefacts including pottery were undertaken in 1980s (*e.g.* Bradley and Fulford 1980; Haselgrove *et al.* 1985; Sullivan 1989; Needham and Spence 1997). For Iron Age pottery, one of the most outstanding studies is the analysis on statistical data by George Lambrick (1984). He set seven stages as the formation process of the pottery: *1) Manufacture, 2) Distribution, 3) Usage, 4) Breakage and discard, 5) Post-depositional disturbance and redeposition, 6) Post-depositional deterioration, 7) Archaeological recovery*. Considering Schiffer's "*archaeological context*", the stages from *5)* to *7)* are important for examining ceramics and the related stratigraphy in order to construct their relative chronological order. In the examining theses stages, Lambrick clarified the complexity and issues with the archaeological information on pottery and provided quantitative data from sites in the upper Thames valley. For ceramic chronologies, it was stressed that "*redeposition*" caused uncertain correlation between the ceramic types and stratigraphy (*ibid.*: 167). Lambrick's study represents that Iron Age sites in relatively lowlands were subject to continual reuse by human beings and various natural agencies. This circumstance suggests the difficulty in constructing relative chronologies of aretefacts, using stratigraphic information of the sites.

The last volume of the Danebury reports (Cunliffe 1995: 7-13) also carefully re-considered the problem of residuality (see Figure 7.8). According to this re-examination, Lock (1995) and Brown (1995) further modified significant parts of the information on ceramic categorisation and periods. Their studies appear to have resulted in highlighting the undesirable influence of ceramic residuality on the construction of stratigraphy-based chronologies. In particular, features within the occupation area, including pits, are highly likely to undergo severe disturbance by post-depositional activities within the settlement. This can be easily inferred from the high densities of the pits and other features in the area, as shown in the Danebury case study in Chapter 6. As contrasted with the above lowland sites in the upper Thames valley, Danebury is situated on upland as well as many other hillforts which are one of the characteristic types of settlements in Iron Age Britain. Such Danebury's circumstance indicates the possibility that a number of hillforts also underwent complicated site formation process. However, in the case of the hillforts, it seems that there tended to be repetitive disturbance of stratigraphy in their occupation areas. Given these, the deposition of vessels in the occupation areas of many hillforts is unlikely to reflect their appropriate chronologies in stratigraphy because of re-deposition and disturbance. Backfilling can also affect the chronology as this depends on where the soil and artefacts were carried during this process.

Despite such circumstances of the features in the occupation areas, intentional depositions of finds related to ritual have been noted and increasingly examined since the 1980s (Whimster 1981; Wait 1985; Cunliffe 1992 *etc.*). Hill's 1995(a) study produced many important implications for interpreting the depositions of finds in Iron Age Wessex, including correlations in deposition between various types of finds leading to significant clues for identification of depositional finds. However, there appear to be a number of issues with the method and data in his study, with implications for similar approaches.

Firstly, as discussed in the previous section, there are problems with existing ceramic classification and chronology, including the Danebury scheme, which his study basically followed (*ibid.*: 3). Furthermore, some significant points of the scheme were modified in 1995, the same year as the publication of Hill's work. Because of this situation, the problems might not have been unavoidable. Secondly, there is a problematic point in the interpretation about ceramic existence. The study relies on the number and weight of ceramic sherds, but lacks an estimate of the number of ceramics as such. This viewpoint appears to be vital for interpreting ceramic deposition in cultural contexts, because the number of ceramics themselves may reflect meaning more accurately than the sherds. For instance, 500 grammes of a ceramic sample may consist of 30 sherds, these sherds could represent 2 or 10 ceramics and this is likely to cause different ways of understanding each case. The study conducted the examinations of pottery by use of standard deviation to solve a possible problem between the number and weight of ceramic sherds (*ibid.*: 41). However, this method did not cover the individual identification of ceramics. This could also affect the interpretation of different trends in ceramic deposition between decorated and undecorated sherds, which was discussed in the study (*ibid.*: 68). Iron Age pottery of central-southern Britain tends to assume decoration on the upper body parts, thus, if many of the sample sherds consist of lower body sherds, the number and weight of ceramics with decoration will be reduced. In other words, it is highly possible that the study's analysis, which was based upon the number and weight of ceramics, led to biased understanding of deposition.

Thirdly, there is a problem with the method of division for filling layers in pits and ditches: "*upper, middle, and lower thirds*" (*ibid.*: 45). Hill noted that the method should be reviewed with more appropriate procedures in the future. He regarded "*the actual depth of burial of deposits*" as important for the examination of relations between artefacts and filling layers. However, the three-divisions were adopted, despite possessing two main problems. One is that the method of division appears to be subjective because their criteria are uncertain. The study discussed the associations between ceramics, other finds and the three-tier strata of filling layers, but the discussion was based on data produced by arbitrary and unclear criteria. This suggests that the data should be readily changeable, a factor which can dramatically alter interpretations about the associations. There is also difficulty in identifying how much of the original upper parts of features have been excavated by diverse post-occupational activities. In other words, it appears that the meaning of the three divided strata in filling layers depended on the surviving conditions of each feature. It is highly likely that the difference in conditions is especially distinctive between different types of features and between different locations in settlements. The difference between pits in occupation areas and ditches in peripheral areas is one such example. Despite this possible problem, the study utilised the three-divisions for ditch fillings in the same way as it had the pits (*ibid.*: 78).

In addition to these three main problems, the study's examination of ceramic finds appears to have been insufficient unanswered questions include: which types of ceramics and which parts were found ?; where were they from and how were they dealt with and deposited ? In order to consider find deposition and the relation to intentional behaviour and ritual practice, these questions need to be examined. Needless to say, the crucial information should be based on careful excavations, accurate recordings and publication of useful reports, as discussed above. The recent agenda for British Iron Age studies has regarded Hill's outstanding study as "*tricky*" (Haselgrove *et al.* 2001: 19). It also warned against subsequent unquestioned adoption for similar studies: "*Yet this is essential, to avoid the uncritical application of a good idea*". However, the agenda's criticisms were mainly concerned with regional differences rather than methods and archaeological data, as indicated in the above discussion.

Study of ceramic sherd size appears to be useful for examining residuality (Orton *et al.*1993: 214). Anne Kirby and Michael Kirby (1976) clarified that ceramics tended to be broken into pieces by various post-depositional agencies. This highlighted the irregularity of ceramic formation processes. According to their examination, the size of each sherd appears to be on average, a third of the perfect profile. Richard Bradley and Michael Fulford (1980) developed this study by using specific factors and as well as incorporating concepts of space. However, there are exceptional circumstances to such results, particularly in terms of average sherd size (*e.g.* Evans and Millett 1992: 239), and this has led to a simple understanding of residuality as highly complex, varying on sites and contexts (Willis 2002: 17). This complexity has already been noted within many sherd analysis studies. However, the studies have suggested that original interpretations, viewpoints and data analysis may be useful for examining residuality.

In analysing ceramic sherd size, statistical data produced in the case studies of Chapters 5 and 6 could also provide some useful implications for assessing residuality. For example, the percentage of pottery in perfect profile found from each site seemed to be very low. Perfect profile means that a ceramic can be reconstructed, in terms of from its top to its bottom. Hence, it is possible that some of the ceramics lacked some of their parts. The Danebury reports produced 129 complete profiles out of 1,247 illustrated ceramics, representing 10.3%. Meanwhile, the Hegistbury Head report provided 34 perfect profiles out of 906 ceramic drawings, a total of only 3.8%. These data were based on the materials, which appear to have been selected from the publications' whole ceramic assemblages. Hence, the percentages should be even lower although there remained a huge amount of ceramics unpresented in the reports. In terms of the difference in the percentages of perfect profiles between the two sites, the clear difference in site location between them should be first taken into consideration: Danebury is situated on a hill, meanwhile Hengistbury Head is located near the seaside. This distinction represents the difference in influences on site formation by natural agencies. It is possible that there were also different human activities in each site. In addition to these site formation processes, compositions of ceramic types in assemblages are also an important issue. Especially, percentages of small and large types of vessels can reflect the difference in the percentages of perfect profiles between the sites.

The low occurrences of complete profiles could be a characteristic of ceramic deposition in the settlements of central-southern Britain. Deposition, as noted above, could be connected to complicated processes taking place over a long period time. Therefore, the reconstruction of processes is likely to be significantly problematic. However, in terms of whether deposition was based on unintentional agencies or intentional acts like ritual and burial, the former appears to have been more common than the latter in the settlements. The low occurrences of complete ceramic profiles could represent this situation. In other words, it seems that most remaining ceramics in the settlements have suffered repeated deposition by various disturbances, causing them to break into pieces and be separated. There might have been rituals involving ceramic depositions whereby different parts of the ceramics were buried in different places inside or outside a settlement. However, a number of existing studies seem to indicate that such intentional deposits were likely to be extremely rare.

This inference, that most depositional cases may have been based on unintentional agencies, is supported by the occurrence of most ceramics inside the settlements. These areas must have had diverse and intensive human acts taking place. For example, in Danebury, more than 80% of the features related to ceramic sherds selected for analysis involved pits. With other features added, the percentage of features inside the settlement reaches circa 90%. The dense and overlapped circumstance of the features can be seen in the reports (Cunliffe and Poole 1991a: Fig. 4.1). Post-Iron Age occupation and rabbit warrens might also be concerned with deposition and scattering (*ibid.*: 8-12). Given these circumstances, the low percentage of ceramics with complete profiles may provide useful implications for examining residuality and human activities in Iron Age settlements.

The samples selected for this study were taken from published sources followed the principles stated at the end of Chapter 4. Consequently, it is not feasible that they represent accurate situations about all the assemblages from the individual settlements. However, published sources often produce ceramic illustrations based on individual sherd identifications which are vital to this process. Therefore, data on complete profiles appears to be informative for considering the post-depositional agencies. However, before the examination of the data, there remains the issue of ceramic reconstruction after careful excavations. The accuracy of the reconstructions depends on how much time and labour are spent, and on how many persons with ceramic knowledge are engaged. This might have to be entrusted to funding for each project and the awareness of the issue on ceramic reconstruction by the persons.

Considering the variety of problems with ceramic residuality and deposition examined above, stratigraphic information on features in peripheral areas of settlements including enclosed ditches and ramparts should be more appropriate for considering relative relations between ceramics in stratigraphy than inside areas of settlements. Hill (1995a: 82), while discussing deposition in ditches, said as follows:

> "*Ditch fills should be seen as neither simple nor essentially natural in origin. Their finds should not be taken as an indication of the location of past activity areas. Deliberate deposits of material, intentional back-filling, and re-cutting were common*".

He also stressed that "*specific depositional practices*" were applicable to other various features, such as "*working hollows*" and "*well shaft fills*". This understanding of the nature of features' fillings may be proper in some aspects, however, there are many questionable points in his study discussed above. Furthermore, because of fewer issues, examination of peripheral areas appears to represent a useful opportunity for constructing relative ceramic chronologies based on stratigraphy.

In particular, enclosed ditches seem to have advantages over other features of settlements. Ramparts also appear to have the similar characteristics, however, it can be inferred that they were constructed over a relatively short period of time. Hence, there is a high possibility that the difference in layers does not always represent a difference in distinctive periods, which would be useful for establishing a relative chronology of ceramics. Additionally, it is likely that there are relatively few ceramics available from the layers. It seems that they also tend to contain earlier ceramics mixed in during construction of ramparts. Given these circumstances, examination of ditch fillings should be more effective than rampart layers. Firstly, ditch-filling volume tends to be greater than the other features. The filling is also likely to accompany many layers and ceramics, and the degree of post-depositional disturbance to the filling appears to be relatively low. Accordingly, examination of the ditch-fillings of enclosed ditches is effective for understanding the stratigraphic sequence of ceramics found in the fillings themselves. For example, Suddern Farm's excavations discovered several ditches which produced a number of ceramic sherds from their fillings' layers. Compared to other features, the layers appear to have been orderly and distinctive (see Figure 7.9), suggesting that each layer was intermittently deposited, and that the layers had been relatively undisturbed. In addition, the number of the filling layers is far greater than those of other features. Hence, it is convenient for examining the stratigraphic sequences. According to Suddern Farm's excavation report (Cunliffe and Poole 2000c: 108), a correlation between the ceramic phases and their stratigraphy seems to have been identified.

However, it was difficult for my case study's analysis to produce the specific correlation between the established ceramic *forms* and the sequences because of the small amount of the useful ceramic samples. It seems that excavations of Iron Age settlements have tended to focus on the interiors. In many cases, excavations of enclosed ditches are likely to have been carried out with a small number of narrow trenches. There were only a few trenches used for this during Danebury's excavations, although many broad trenches were used in the interior (see Figure 6.6). Suddern Farm's excavations also possessed the same situation as Danebury's excavations (see Figure 7.10), although the 1996 trench included enclosed ditches it seems that many areas had been disturbed by post-Iron Age activities *(*Cunliffe and Poole 2000c: 55-6). Furthermore, according to the ditch sections, the filling depth appears to have been relatively shallow, thus, these circumstances are likely to be inappropriate for considering correlation between ceramics and their stratigraphy. This leaves only one small trench for examining the enclosed ditches' fillings.

This trend relates to the history of Iron Age studies, since the beginning of Iron Age settlements excavation in the second half nineteenth century, the goal of excavation has expanded to include various internal areas of settlements (Cunliffe 2005: 4-9). The scale of the excavations has expanded accordingly. A key turning point lies in the 1930s, when Hawkes produced the unique chronological system of Iron Age Britain, relating it to continental cultures and societies. He developed hillfort studies at the same time, focusing on their defensiveness (*e.g.* Hawkes 1931), and his chronological system and studies were significantly influential on diverse areas of Iron Age studies. However, Hawkes' theories are in requirement of revision (Cunliffe 2005: 11-2). Many excavations of open settlements were undertaken in the 1930s, and analysis of such sites became common after that. Cunliffe (1984b: 549-63) moved the field forward by providing a developmental model of hierarchical settlement systems of Iron Age societies in central-southern Britain. This used the idea of "*Central Place Theory*", a concept proposed by the German geographer Walter Christaller in 1930s (Coe *et al.* 2007: 291). As with Hawkes' example, a number of studies followed his impressive idea (*e.g.* Darvill 1987; Gibson and Geselowitz 1988; Hingley 1989). However, there have also been many studies which are critical against this model (*e.g.* Collis 1985; Haselgrove 1986; Sharples 1991; Hill 1995c).

Given these developments in Iron Age settlement studies, the main focus since the 1930s has been on understanding the content of settlements and on interpreting societies. This suggests that examination of peripheral settlement areas, including enclosed ditches and ramparts, has been relatively ignored by Iron Age archaeologists. Nettlebank Copse's excavation, which is one of the case study sites, is likely to be a rare case where many trenches for enclosed ditches were placed during excavation (Figure 7.11). These trenches produced 503 ceramic sherds, which was 6.7% of the total sherds. The illustrated sherds from 22 ditch trenches, which were used in my analysis, numbered 136 of the whole assemblage though the number of sherds from each trench tended to be small. Furthermore, relations between the layers of the individual trenches were uncertain and these circumstances caused difficulty in assessing the relative chronology of ceramics based on their stratigraphy. Given the limitations of current methods, more excavations of enclosed ditches should be undertaken for effectively developing the study of relative chronology based on stratigraphy. In this case, larger excavation space seems to be more preferable, rather than a number of small trenches, as suggested in the Nettlebank Copse's excavation above. Such wide area excavation could be useful for the examination of deposition, residuality and ritual.

7.2.5 Summary

Despite doubts over the usefulness of Iron Age pottery as a chronological indicator (*e.g.* Hill 1995b), the pottery is often used for chronological discussion in excavation reports and other studies of central-southern Britain. This is based on the high availability and commonality of pottery. However, though there are problems with usage of ceramics for setting chronological framework. This chapter considered solutions to these problems by examining the information on stratigraphy of Iron Age sites in central-southern Britain.

Stratigraphic information must fulfill certain requirements to be used in constructing for relative ceramic chronologies: 1) a large amount of diagnostic ceramic sherds; 2) careful excavation, accurate recording and publication of the site information with easy access; 3) well-conditioned stratified sequences. A number of issues were identified with these points, additionally the problematic Danebury scheme (*e.g.* Brown 1995; Lock 1995; Collis 2008) seems to have affected other sites' ceramic chronologies. This scheme has issues with not only the classification method, but also the correlation between stratigraphy and ceramic phases.

In terms of the quantity of diagnostic ceramic sherds, there were clear differences between sites. However, there were four common problems occurring across the sites: 1) few vessels available from each feature; 2) few layers accompanying ceramics in each feature; 3) no specific differences in detailed shape between ceramic types within same groups; 4) few comparable vessels between layers in each feature. These problems caused serious difficulty in considering relative ceramic chronologies based on stratigraphic information. Further problems are caused by the insufficient and complicated release of ceramic information including stratigraphy, and the poorly preserved stratigraphy. Consequently, few chronological studies have been produced due to this lack of information.

Having examined the case studies, it is clear that presentation of ceramic information on stratigraphy is highly inadequate in many points, especially in terms of the accessibility and complexity. It was very difficult to acquire important information to correlate ceramic sherds and their stratigraphy. Release of such important information has been urged by *The Prehistoric Ceramics Research Group* (1991) and a recent agenda of British Iron Age studies (Haselgrove *et al.* 2001), however, few studies seemed to have followed this recommendation. This situation probably reflects a lack of understanding of the importance of stratigraphic information. Regarding the presentation of information, web sites and CD-ROMs are effective means of dissemination although publication is still required (*e.g. ibid.* 2001), preferably with stratigraphic information accompanying ceramic illustrations in order of stratification. This can solve the problem of complexity, which information of correlation between ceramic sherds and their stratigraphy presented in most excavation reports have. The popular division style of British Iron Age excavation reports, a site section and a find section, should be re-considered, in light of the editorial methods of other countries' reports. The *Harris Matrix* method (Harris 1979) appears to be useful for understanding sites' stratigraphy and should accompany ceramic and other artefact information.

In presenting stratigraphic information, the significance of the published excavation reports was also considered. The examination of the influential Danebury reports revealed many mistakes and the information tended to cause difficulty in re-examination of primary ceramic data. Basic quantitative ceramic data necessary for statistical studies was also likely to be hampered as many excavation reports presented little primary data. These problems seem to have been caused by the sharp increase of excavations since the 1960s. The *Department of the Environment*'s discussions (1975, 1982) resulted in an emphasis on selectivity of data based on research designs (Andrews and Thomas 1995). Using such specific selectivity, many reports appear to have begun to commit to explanation and interpretations of excavated sites. This contributed not only to the neglect of important data in excavation reports on artefacts, stratigraphy and their correlations, but also to the disregard of re-examination of such data. The stagnation of typological and chronological studies of the British Iron Age is a reflection of this situation.

Many studies are likely to use a variety of artifact and site information in their excavation reports. This is caused by problems in the availability of, accessibility to and difficulty in understanding primary data in archives and excavation recordings. In order to solve these problems and provide useful data for archaeological studies, excavation reports which arrange and organise complicated data, are produced in many regions and countries. Reports which fulfill these requirements should lead to the development of more reliable studies. Using publication to interpret excavated sites is important, however, presentation of organised data should be prioritised. Interpretation of excavated sites can be addressed in subsequent studies rather than in excavation reports, and be based on such useful data which allows other archaeologists to re-examine any conclusions made. This highlights the fundamental difference in the purpose of excavation reports, recordings and archives.

Another main issue was the condition of ceramic stratigraphy: namely residuality and deposition. This issue has been developed both theoretically and practically since Schiffer's study of formation processes of archaeological artefacts in the 1970s. In terms of

British Iron Age ceramic studies, significant complex correlations between ceramic types and their stratigraphy were identified (*e.g.* Lambrick 1984; Lock 1995). In addition, many studies of intentional finds depositions were produced and became popular after the 1980s (*e.g.* Wait 1985; Cunliffe 1992). However, according to the examination of Hill's predominant study (1995a), there were a number of problems with the method and data. For example: 1) the adoption of the Danebury scheme was problematic; 2) the statistical analysis was inappropriate; and 3) there were issues with the classification of filling strata. Firstly, re-examination of existing chronological frameworks and establishment of new schemes are needed, as discussed in the previous section of this chapter. These works should be based on specific methods and distinctive criteria for classification, aspects which are insufficient in existing studies. Secondly, it was proposed that the counting ceramics should be based on individual identifications, which is more appropriate than counting ceramic sherd number and weight. Thirdly, valid classification of filling layers based on objective criteria is recommended. Furthermore, in order to interpret intentional ceramic deposition, there are a number of important points: data on ceramic types and parts, specific location of ceramic finds and concrete situations of ceramic deposition.

Considering these problems, intentional ceramic deposition, like ritual practice, appeared to have been uncommon in Iron Age Wessex. This can also be inferred by sherd size analysis of ceramics. According to the case studies, the percentage of complete ceramic profiles was very low. This seemed to show that most vessels from Iron Age sites were deposited unintentionally through repeated disturbance. This is reinforced by the occurrence of a majority of the vessels inside occupation areas of settlements. Given such problems with ceramics currently available from Iron Age settlement sites, intensive excavations of peripheral areas of the sites were proposed. The areas tend not to have been disturbed as much as the inside occupation areas and enclosed ditches are likely to have a large quantity of back-fillings and more appropriate stratified sequences. Therefore, the ditches appear to be useful for stratigraphically examining vessels and arranging them in relative chronological order. It seems that relatively unpopular excavations of enclosed ditches have the potential to bring many benefits to studies of both ceramic deposition and chronology.

7.3 Absolute Dates: Issues and Applications

7.3.1 Introduction

Once typologically classified ceramics are arranged in relative chronological order, absolute dates are required to complete the chronological frameworks. Absolute dating has been used in many areas of archaeology (Rice 1987: 435), its importance for constructing ceramic chronologies appears to be connected to the outstanding commonality of ceramics in archaeological objects. This archaeological prominence allows us to date non-ceramic objects, features and settlements more easily than would otherwise be possible. Ceramics also contain various factors, such as shape, decoration, clay fabrics, size, colour and making technique that can provide much information for considering archaeological evidence in broader spatial and historical contexts. Therefore, accurate and detailed ceramic chronologies should continue to be explored for the continued development of diverse archaeological studies.

Although there are many absolute dating methods for ceramics (*e.g.* Michael and Ralph 1971; Michels 1973), they fall broadly into two categories: historical cross-dating, and physical and chemical scientific dating. As these dating methods have unique techniques and problems they should supplement each other. Thus, careful cross-checks between absolute dates on different methods are required for constructing reliable ceramic chronological frameworks. Accumulation of useful data and re-examination of dating studies are also a necessity. This section will examine the existing circumstances of data used for absolute dates in the case studies of central-southern Britain. Future studies useful for dating ceramics will be considered and problems will be identified throughout.

7.3.2 Data on absolute dates: (1) historical cross-dating

Historical cross-dating was common in ceramic studies of many regions until the advent of scientific dating methods, especially the introduction of radiocarbon dating in the late 1940s (*e.g.* Trigger 2006: 382). Developed by a Swedish archaeologist, Oscar Montelius (1885, 1903 *etc.*), historical cross-dating is based on "*culture trait comparison and correlation*" (Michels 1973: 99) and is related to typological studies of archaeological objects (Harding 1999: 186). The method requires definite object chronologies to be compared with undated objects, then, the objects between different regions are examined based on analogy (Michels 1973: 99-106). However, a direct comparison can be made by use of dated imports (*e.g.* Collis 2008: 91), for example, the later European prehistoric chronologies have been constructed using chronological schemes from regions such as Italy, Greece and Egypt (*e.g.* Harding 1999; Kristiansen 1998). Metal objects, such as brooches, swords and coins were especially effective for cross-dating in chronological studies of Iron Age Britain (*e.g.* Hawkes 1959; Hodson 1960; Cunliffe 1974).

However, this method has issues with precision, Kristiansen (1998: 34) stated that "*the sample of dating is usually small and uneven, raising the degree of statistical insecurity concerning the representativity of the results obtained*". According to the case studies in Chapter 6, this appears to be applicable to Iron Age objects of central-southern Britain.

Furthermore, he noted a crucial problem with the method was "*the circulation time of imports before they are deposited fluctuates*" (*ibid.*: 34), citing the difference in the circulation time of goods between the European Bronze Age and Dark Age. In other words, contemporaneity between undated objects and dated imports influences the method's precision. This is due to differences in not only imports' circulation time, but also the types of deposition for both imports and undated objects. The previous section of this chapter identified the complexity of ceramic deposition in Iron Age settlements. Their inside areas, on which most excavations focus, distributed dense overlapped features through long sedentary activities, as noted in the last section of this chapter. Consequently, Iron Age settlements' stratigraphy seems to be inappropriate for considering relative chronologies of objects and relations in time between different types of objects.

Intentional deposition, seen in burial and ritual practice, possesses more favourable contemporaneity though with issues of circulation time for imports and prestige goods. For example, the appearance of specific Iron Age cemeteries in the late fifth century Yorkshire is thought to have been influenced by the Arras culture in northern France (*e.g.* Stead 1965, 1979; Dent 1982) which used ornaments, weapons and pottery as grave goods (Cunllife 2005: 549). Although the tradition in the Yorkshire cemeteries was likely to be somewhat different from the original continental tradition, examination of cross-dating between local ceramics and La Tène brooches was conducted (Stead 1991; see Figures 4.10, 4.11). In addition, cremation in south-eastern Britain, which began to become popular from the beginning of the first century BC, provides materials for cross-dating. For instance, while grave goods were unlikely to accompany cremation burials at Westhampnett in west Sussex, a few vessels and brooches were found together in a number of burials (Fitzpatrick 1997; see Figure 7.12). This situation allows us to consider chronological correlations between them. However, there appear to be few useful examples for cross-dating between undated local objects and dated imports in Iron Age Britain, including central-southern Britain. This is probably caused by the different traditions in British ritual and burial practice from continental grave-good customs (*e.g.* Collis 1997; Kristiansen 1998). Apart from the examples above, most British burial traditions are uncertain, leading to the assumption that exposure and scattering were the dominant practices (*e.g.* Cunliffe 1978; Haselgrove 1999). Given these issues with historical cross-dating, information on the dating available from the case studies' sites will be examined below.

7.3.2.1 Danebury

Danebury produced several types of metal objects which could be useful for cross-dating with local vessels. Seventy five Celtic coins, found from the site and its outskirts, were located by a metal detector user (Cunliffe and Poole 1991a: 21), therefore, a majority of coins had no stratigraphic information and were ineffective for considering contemporaneity with ceramics. A few coins with stratigraphic data were found in the excavations (Cunllife 1984b: 332) but they showed no stratigraphic relation with vessels selected for typological classification.

Eight brooches and one ornamental bronze disc were found (*ibid.*: 340-3 and microfiche 9: A9, Cunliffe and Poole 1991b: 328-333 and microfiche 28: A3). Some of the brooches could be identified as continental La Tène types and the others were dated to specific periods (see Table 6.20). However, such a small number of objects were insufficient for cross-dating with ceramics and there were problems with their stratigraphy. Firstly, Nos. 1.24 and 1.89 had unclear stratigraphy; secondly, the others' stratigraphy was concentrated in the Period 6 (see Table 6.21), prohibiting comparison with other periods. Stratigraphic sub-division within Period 6 was also ineffective because of the small amount of samples. Thirdly, the brooches' stratigraphic excavation order in 1977-78 showed little conformity with their estimated dates (compare between Tables 6.20 and 6.21: Nos. 1.28, 1.90, 194), possibly due to the poor stratigraphic condition in the settlement as discussed in the previous section of this chapter. Finally, there were no features which represent contemporaneity between dated bronze objects and ceramics selected for typological classification. Such circumstances do not readily allow for the cross-dating of ceramics.

7.3.2.2 Hengistbury Head

Hengistbury Head produced a huge amount of coins: 3,326 Celtic and 107 Roman coins, mainly discovered in the early excavation by J.P. Bush-Fox (1915) in 1911 and 1912 (Cunliffe 1987: 136). Considering the site's poor stratigraphic condition and early 20th century excavations and report standards, materials recovered from the early excavations should be omitted from this examination. The recent excavation from 1979 to 1984 produced 30 coins: 11 Celtic and 19 Roman (*ibid.*: 136, 138). Only two coins were found from Late Iron Age contexts, but the coins did not allow ceramics selected for typological classification to be considered for cross-dating because of lack of contemporaneity. Meanwhile, the rest of the coins were found from Roman contexts, ploughsoil and uncertain contexts, which are ineffective for cross-dating.

Other dated metal objects from the recent report include brooches (*ibid.*: 142-51) and a La Tène III type silver/gold handle (*ibid.*: 157). However, a majority of objects were discovered in the early excavations and thus most stratigraphic information is unclear (*ibid.*: 142). In fact, the report represents only one of the 32 brooches recovered from an Iron Age context unassociated with ceramics selected for typological classification. Because of this situation, it was unfeasible to conduct cross-dating between such objects and ceramics.

In addition to these metal objects, *amphorae* could be used for cross-dating. Hengistbury Head produced a large quantity of various types of *amphorae*, the majority being *Dressel 1* and *Dressel 20* (Williams 1987: 271; see Table 6.69). According to Peacock's typological classification and chronology of imported *amphorae* in Britain (1971, 1984), the dates of major *amphorae* from Hengistbury Head could be likely to extend from the late second century BC to the first half century AD (see Table 6.69). However, the *amphorae*'s chronology was ineffective for detailed cross-dating with ceramics, because *Dressel 1 amphorae* had been recovered from all stratigraphic periods between the Iron Age and the Roman period (see Table 6.70).

7.3.2.3 Other Sites

The other case studies show similar situations to Danebury and Hengistbury Head. Dated coins and brooches were recovered from their excavations, but they were not useful for cross-dating with ceramics due to three reasons. First, dated objects were too few to conduct cross-dating like the cases of Old Down Farm and Nettlebank Copse. Second, dated objects were not contemporary with ceramics. For example, although Suddern Farm produced a La Tène II type brooch from grave F447 (Cunliffe and Poole 2000c: 119, 156; see Figure 7.13), the grave was accompanied with ceramics. Third, dated objects were found unstratified, possibly due to re-deposition. For instance, two brooches dated from the first century BC to the first century AD were recovered at Woolbury but found from relatively late contexts (Cunliffe and Poole 2000a: 57-9). One was from the upper filling of the fort ditch (F1) containing Roman typed vessels dated from the first to third century AD (*ibid.*: 43), and another was from "*ploughsoil of Roman dated in lynchet material (F3)*" (*ibid.*: 59). Thus, effective materials for cross-dating were unavailable from the case studies' reports.

In summary, cross-dating between dated objects and undated ceramics seems to be very difficult in Iron Age central-southern Britain. The main causes for this are: 1) few dated objects; 2) unclear contemporaneity between dated artefacts and local vessels; and 3) re-deposition of both the materials. The lack of dated objects has to be remitted to future excavations, this also applies to the second and third problems. Given the importance of contemporaneity between dated objects and undated ceramics, more burial excavations rather than settlement excavations are required. However, this might be ineffective for ceramic cross-dating, as Iron Age burials accompanying dated objects and ceramics together seem to have been uncommon in many parts of Britain. Even in cases of settlement excavations, well-stratified sequences such as deep enclosure ditches and pits' basal layers could provide useful samples for ceramic cross-dating. The significant factor appears to be the diligent accumulation of samples' data for cross-dating, which may enable ceramic seriation analysis for constructing ceramic chronologies. If absolute dating by scientific methods is available, the data could also be useful for development of chronological studies.

7.3.3 Data on absolute dates: physical and chemical scientific dating

7.3.3.1 Radiocarbon dating

Physical and chemical scientific dating methods have played an important role in prehistoric studies for a long time, radiocarbon dating in particular has been used in many studies. This dating method, devised by Willard F. Libby and his students in 1947 (Daintith *et al.* 1994: 543), began to be introduced to archaeology soon after its discovery. This was named the "*first radiocarbon revolution*" by Colin Renfrew (1973: 48-68) as it allowed the establishment of more precise chronologies without "*archaeological assumptions*" (*ibid.*: 48). However, Hans E. Suess (1967) clarified the need for significant revision of radiocarbon dates using a calibration curve based on dendrochronology (Renfrew 1973: 69). This led to more accurate absolute dates resulting in modification of existing chronologies. With the help of these new methods, Renfrew (*ibid.*: 84-108) re-examined and revised the European prehistoric chronologies and cultural diffusion schemes which V. Gordon Childe (1925) had presented, describing this situation as follows:

> "*The whole diffusionist framework collapses, and with it the assumptions which sustained prehistoric archaeology for nearly a century. These are the consequences of what may justifiably be called the second radiocarbon revolution.*" (Renfrew 1973: 85).

In the late 1970s, the "*third radiocarbon revolution*" (Taylor 1997: 70) took place due to Accelerator Mass Spectrometry (AMS) (*e.g.* Linick *et al.* 1989; Tuniz *et al.* 1998). Accrding to Taylor (1997: 80), dating of "*archaeologically-related samples*" by use of AMS was undertaken by Richard Muller and his research members (Muller *et al.* 1978) at the University of California Lawrence Berkeley Laboratory. There were two advantages in the AMS dating: "*major reductions in sample sizes*" and "*major reductions in counting times*" (Taylor 1997: 82). This technique has further benefits in "*dating precision*", "*datable time span*" and "*throughput*" (Tuniz *et al.* 1998: 228). Radiocarbon dating, for example, requires amounts 20 gramms of carbonized seeds and 300 gramms of bone (Renfrew 1973: 51); the AMS dating needs only "*samples containing 1 mg of carbon*" (Tuniz *et al.* 1998: 228). These remarkable developments have contributed greatly to worldwide dating and chronological studies with 52 laboratories conducting dating using the AMS technique (Nakamura 2004: 35; see Table 7.1).

AMS also has had a great influence on chronological studies of Iron Age Britain (*e.g.* Haselgrove 1999: 115; Willis: 2002: 11). In terms of central-southern Britain, Danebury's scheme based on detailed analysis of moderate amounts of radiocarbon dates has been used as a standard chronological framework. For example, Ann Woodward (2000b: 42) regarded it as "*the only ceramic sequence in southern Britain that has been dated adequately by the radiocarbon method*" and mentioned Danebury's scheme for considering Cadbury Castle's ceramic phases. However, the issues with Danebury's scheme have been noted, and there are also problems with its radiocarbon dates. Although a large quantity of radiocarbon dates for British Iron Age studies are likely to have been accumulated over recent decades (Cunliffe 2005: 652), it is uncertain if there are many useful radiocarbon dates for ceramic chronologies. In order to acquire such data, constant "*multiple radiocarbon dating*" "*more than tokenism*" should be sought (Haselgrove *et al.* 2001: 4). Re-examinations of ceramic chronologies using new radiocarbon dating data, should also be required for refining existing chronological schemes.

Considering these circumstances, this section will examine how radiocarbon dating has been used in Iron Age chronological studies. Examples will be drawn from the case study sites, problems will be identified and the inclusion of alternative absolute dating methods will be proposed.

7.3.3.1.1 Danebury

Radiocarbon dates played a prominent role in the Danebury report (Cunliffe 1984a: 190-8). There were 65 useful samples for absolute dating from different *ceramic phases*. The report (*ibid.*: 197) assigned absolute dates to the phases based on the radiocarbon dates, however, the assigned dates were modified in the later report due to the appearance of "*reliable calibration curves*" and "*Baysian statistical analysis*" (Cunliffe 1995: 17; see Table 7.2). This ceramic chronological scheme was adopted by subsequent related studies in central-southern Britain (*e.g.* Brown 1991; Woodward 2000), however, Danebury's case study identified problems with the assignments of absolute dates to the *ceramic phases*.

One such issue was the inconsistent relations between radiocarbon dates and their stratigraphy. As demonstrated above, for example, the radiocarbon dates of *phase i* samples recovered from the excavation in 1977-78 tended to represent later dates than those of the upper stratigraphic strata like *phases k* and *l*. This was probably caused by insufficient amounts of samples and their residuality and incorporation. This was inferred primarily by the remarkably different samples' dates within some individual *phases*. According to the examination of Danebury's occupation area stratigraphy in the previous section, the incorporation of samples and residuality are highly possible because of the poor stratigraphic conditions. The report also noted the possibility of this circumstance (Cunliffe 1984a: 190; Brown 1995a: 59).

There were further problems with correlations between vessels selected for typological classification and their associated radiocarbon dates. First, the small number of useful samples available from the report did not allow the vessels to be chronologically arranged. Although 60 ceramics were available for examining correlations, the dates of 18 of these were ineffective for dating various ceramic types. Secondly, three pairs of samples from the same features showed large differences in dates: samples from Pit 589, Pit 1089 layer 5 and Pit 1078 layer 10 (see Table 7.3). The first two of these samples were considered potentially erroneous due to "*grain giving a lower measurement than bone or charcoal*" (Cunliffe 1984a: 193). Apart from issues on sampling techniques, this problem may be connected to the samples' incorporation and residuality. Finally, there are inappropriate correlations between Danebury's ceramic phases and radiocarbon dates. For instance, *ceramic phase* 7 was thought to have ranged from 270 to 50 BC in the later report (Cunliffe 1995: 18), but the phase's median radiocarbon dates showed a spread of more than 500 years. This may also appears have been caused by problems with sampling techniques and the samples' incorporation and residuality, though it is likely to be rooted in problematic ceramic typological classifications and their application to vessels in Danebury's report.

Apart from these problems, there are other issues with the use of radiocarbon dating. As is well-known, calibration is needed to increase precision (*e.g.* Taylor 1987: 133-4; Bowman 1990: 16-8), this has been mainly conducted with standard calibration database programmes such as *IntCal* (Stuiver *et al.* 1998, Reimer *et al.* 2004) and *OxCal* (Bronk Ramsey 1994, 1995, 2009). Despite the development of such software, there remains a serious problem with the calibration curve between *c.*800 and 400 BC. This flat area can cause a situation where different dates' samples could show similar dates (*e.g.* Pearson and Stuiver 1986; Bowman 1990; Guilderson *et al.* 2005; see Figure 7.14). This problem has affected the dating of both European and British Iron Age chronologies (*e.g.* Kristiansen 1998: 35; Willis 2002: 13). The Danebury report (Cunliffe 1984a) also produced a number of sample dates associated with the flat area of the calibration curve which suggests that they may include inaccurate absolute dates. However, it seems that the *Bayesian* statistical approach (Buck *et al.* 1996) can solve the problem when stratified sequences with radiocarbon dates, excluding the flat area, are available (*e.g.* Haselgrove *et al.* 2001: 5; Cunliffe 2005: 654). This approach is regarded as a '*mature methodology*' for calibration of radiocarbon dates in the *OxCal* programme (Bronk Ramsey 2009: 358), and was also adopted for revising the Danebury scheme (Cunliffe 1995: 17).

A further problem can be seen with the samples suitability for radiocarbon dating. Danebury's 65 samples consisted of three different categories: 50 wood charcoal, 5 grain, and 10 animal bone. Wood charcoal has several issues when used for dating. The most prominent is "*the* '*Old Wood*' *problem*" (Schiffer 1982, 1986), also known as "*the presample-growth (or inner wood) error*" and "*presample-growth error*" (Taylor 1987: 45). Here, samples from inner (older) rings are older than the dates of their associated features. To avoid this problem it is likely to be preferable that "'*short-lived*' *samples such as reed or seeds*" are collected for dating their associated features and finds (*ibid*.: 46) as these tend not to experience "*seasoning or re-use*" (Bowman 1990: 51). A related problem involves samples from trees cut down and burnt in much earlier periods than their associated features. Partick Ashmore (1999) demonstrated specific dating errors caused by charcoal's survival, and explained the importance of "*single entity*" sample dating on prehistoric Scottish sites. The definition of a "*single entitiy*" is: "*any thing, being demonstrably a single part of an organism, in which the absolute chronological relationship between all components forming that part can be established to the nearest calendar year*" (Ashmore 1999: 124). Dating *single entity* samples is likely to be required for both accumulating more accurate data and re-examining existing data, especially associated with bulk charcoal samples (*ibid.*: 128; Haselgrove *et al.* 2001: 5). A further issue is contamination of charcoal sample dates by rootlets (*e.g.* Taylor 1987: 46-7). Rootlets tend to absorb carbonates and humic acids carried by groundwater, which can cause marked dating errors (*e.g.* Michels 1973: 159; Göksu *et al.* 1991 :25): "*variations of* *as much as 1000 years have been reported on a small number of Holocene charcoal samples (cf. Goh and Molly, 1973; Bailey and Lee, 1973)*" (Taylor 1987: 46-7). The solution to this problem appears to rely on the careful treatment of charcoal samples.

Grain samples also have several problems for evaluating their dates. First, such small samples can be readily moved through both natural and artificial agencies. Hence, a careful examination of their situations, during sampling to see if they reflect primary conditions is required. Consequently, it is preferable to use materials, such as "*dumps of cereal processing waste*", for grain sample dating (Haselgrove *et al.* 2001: 5). Furthermore, "*short-lived samples*", including grains, also have problems:

> "*The ^{14}C content of a typical wood or charcoal sample reflects the composite ^{14}C activity of the total number of tree-rings making up the sample matrix. Short-term seasonal and annual variations in ^{14}C activity, which can amount to as much as several percent, are 'averaged out.' By contrast, the ^{14}C activity in short-lived plant materials will typically reflect theses seasonal and annual variations. Thus, it is important that these effects be considered when comparing ^{14}C values from wood/charcoal to those from such materials as reed, grains, or seeds*" (Taylor 1987: 48).

The Danebury report considered this problem, and compared sample dates between grain, bone and charcoal (Cunliffe 1984a: 190-3). This examination showed that grain samples tended to represent "*lower measurement*" when compared with the other types of samples. Thirdly, the difference in $\delta^{13}C$ values of plants based on photosynthetic pathways, can affect dating and associated features and finds. This "*can be reflected in ^{14}C differences between woody and non-woody plants of the same age by as much as several hundred* *years*" (Taylor 1987: 48). Therefore, plant samples radiocarbon dates are required to be sorted and revised by use of their $\delta^{13}C$ values. This should be re-checked especially in the case of old data (Bowman 1990: 23). According to the difference in $\delta^{13}C$ values, plants can be generally separated into three types: C_3, C_4 and CAM plants. Grains available from Danebury were mainly two types of C_3 plants: spelt wheat and hull-six-row barley (Cunliffe 1984b: 483). According to Jay (2008: 203), C_4 plants were unlikely to be available in prehistoric Britain, whilst C_3 plants appear to have been common. In terms of the European Iron Age, C_4 plants, like millet, seem to have been found from Iron Age sites (*e.g.* Murray and Schoeninger 1988; Le Huray and Schutkowski 2005) but not from British Iron Age sites (Jay 2008: 204). There seems to be no specific evidence for plants from British Iron Age sites at present, it is highly possible that C_4 plants existed in the sites given the contacts with the continent and the larger Roman world in the later Iron Age (*e.g.* Cunliffe 1982; Fitzpatrick 1985; Cunliffe and De Jersey 1997; Cunliffe 2005). This issue should be kept in mind when sampling plants for radiocarbon dating.

Bone consists of two types of components, "*organic (collagen)*" and "*inorganic (calcium phosphate and calcium carbonate)*", both containing carbon (Michels 1973: 161; Taylor 1987: 53). These are useable for radiocarbon dating, however, they can be contaminated by groundwater including "*atmospheric carbon dioxide of modern-^{14}C*" (Michels 1973: 161). Consequently, "*organic (collagen)*" components which are not affected by such contamination (Berger *et al.* 1964) are likely to be used for radiocarbon dating (Michels 1973: 161). However, as they can be damaged by "*warm conditions, fungi and bacteria*", dating their amino acids seems to be preferable (Taylor 1987: 56; Bowman 1990: 29). This process is, however, "*time-consuming and costly*" (*ibid.*: 29). In addition to these problems with sampling methods and pretreatment, the difference in $\delta^{13}C$ values of bone samples should be taken into consideration because the values can represent those of human and animal diets (Bowman 1990: 22). As noted above, C_3 plants were likely to form the diet in Iron Age Britain, if their diets were marine food and fresh water plants the $\delta^{13}C$ values of their bones would be higher. For example, Jay (2008: 209) clarified with isotopic analysis that one pig would have eaten "*freshwater resources*" at Glastbonbury lake village, an Iron Age site in Somerset. This suggests that Danebury's bone samples could also represent higher $\delta^{13}C$ values related to freshwater plants. Evidence for marine food consumption is uncertain in Danebury, but it can be assumed that such food was imported from the southern coast areas through the river Test.

7.3.3.1.2 Other Sites

The other case study reports provided little data on radiocarbon dates. Five sites reports of the *Danebury Environs Programme* followed Danebury's ceramic system, constructed in 1984 and revised in 1995, thus absolute dates relied on Danebury's ceramic chronology without an examination of new samples for radiocarbon dating. The Hengistbury Head report also used Danebury's ceramic system for dating, although the assemblage included a large number of different types of vessels from those at Danebury. It is uncertain from the report how the different types of vessels were dated without specific samples. It can be inferred that imports, such as continental vessels and *amphorae*, were used for establishing a ceramic chronology, but the report presented little explanation of this procedure. This situation suggests that absolute ceramic dates for these sites have the same problems as Danebury's scheme.

The Old Down Farm report provided four pieces of bone for absolute dating (Davies 1981: 144; see Table 6.66). Apart from issues on bone samples discussed above, such a small number of samples were insufficient for absolute dating of the associated ceramics.

Information on their associations and sample producing stratigraphy was unavailable from the report, furthermore, the sample dates overlapped even though their associated ceramic phases were clearly different, *e.g. Phase 2* (*c.*the 8th century BC) and *Phase 3* (*c.*the 7th century BC). The report's ceramic chronologies did not accommodate radiocarbon dates of associated bones, possibly due to "*some technical problem with the radiocarbon material*" (*ibid.*: 144) but there also might be a problem with the ceramic chronologies themselves. Because of these problems, the data was ineffective for absolute dating of vessels selected for typological classification.

Seven absolute date samples were available from the Balksbury Camp report (Wainwright and Davies 1995: 104), four Iron Age samples were composed of antler and charcoal (see Table 6.61) but there were several problems with the data. Firstly, the small quantity does not enable absolute dates to be reliably assigned to many types of vessels. Dating samples also had no relation with stratified vessels, consequently it was unfeasible to compare between ceramics and materials for ceramic dating. Further issues lie in samples for radiocarbon dating, issues with charcoal samples have been discussed in the examination of the Danebury samples, antler samples for radiocarbon dating are unlikely to be common in the Iron Age study though one sample was available. Problems with antler samples were identified in the examination of Grime's Graves, a late Neolithic flint mine in Norfolk (Burleigh and Hewson 1979). This site produced a large number of antlers which had been likely to be used as 'picks' (*ibid.*: 593), the analyses of antlers' dating clarified that "*radiocarbon ages for collagen from antler (but not bone) appear to be subject to substantial error*", which seems to have been mainly caused by "*an atmospheric* ^{14}C *variation*" (*ibid.*: 599). It is uncertain if the Balksbury Camp antler sample contained collagen, though this problem should be noted when using antlers for radiocarbon dating.

Other recent reports of central-southern Iron Age sites are also examined to understand the broader trends in Iron Age studies' use of radiocarbon dating for ceramics. The recent excavation report of Maiden Castle in Dorset provided 26 radiocarbon dating samples: 10 of them were analysed by '*conventional liquid scintillation techniques*', whilst *Accelerator Mass Spectrometry (AMS)* was adopted for the reminder (Sharples 1991: 102). However, as the sample dates lie between 4,000 and 3,000 B.C. (*ibid.*: 103-4), they were not useful for considering absolute dates of Iron Age vessels. Additionally, the application of Danebury's chronological scheme (Brown 1991: 187) brings the same problems seen in the *Danebury Environs Programme*'s and Hengistbury Head site reports.

The site report of Battlesbury Bowl in Wiltshire produced 16 radiocarbon dating samples (Ellis *et al.* 2008: 14-5; see Table 7.4). This is a small sample group for considering detailed chronological division between ceramics, although rough ceramic phasing appears to have been established in the report. The difference between sample dates was also indistinct, thus they were ineffective for dating. Moreover, several sample dates fall within the problematic section of the calibration curve between *c.*800 and 400 BC, meaning that the sample dates could be inaccurate. All samples were composed of human and animal bones, except one charcoal example. Problems with bone samples for radiocarbon dating were discussed in Danebury's examination and should be taken into account for ceramic dating. Similarly, cross-checks with other materials' samples should also be carried out to solve the problems.

A recent report of Iron Age sites in west Sussex carefully took the problematic period of calibration curve into consideration for radiocarbon dating of ceramics, and avoided sampling organisms for radiocarbon dating (Fitzpatrick 1997: 7). This report regarded typological methods as more useful for dating features than radiocarbon dating, in cases of "*absence of sequences of stratified deposits*" (*ibid.*: 7). This suggests that there is often difficulty in using radiocarbon methods because of insufficient surviving stratigraphy, examined in the previous section of this chapter. Hence, many Iron Age excavation reports could tend not to collect samples for radiocarbon dating of materials and features although there should be other problems, including cost for radiocarbon analysis, with adoption of the dating.

As examined above, there were a number of issues with radiocarbon use for dating Iron Age sites, most of which were produced from Danebury's data. The issues can be divided into two types: archaeological and scientific. The former is mainly concerned with inappropriate correlation between radiocarbon dates and stratigraphy and between dates and ceramic typological classification. Problems appear to have been caused by not only insufficient quantity of samples and their properties but also poor stratigraphic conditions of settlements and inadequate typological vessel classification. Re-examination of ceramic classification should be taken into account and undertaken for more reliable studies. In terms of other causes, it goes without saying that the amount of samples for radiocarbon dating should be increased, and sampling and analysis for dating, methods of excavation and recording should be also improved.

In addition, a notable issue is contemporaneity between vessels and samples for radiocarbon dating, cited by Haselgrove (1986, 1992) as important for use in Iron Age radiocarbon dating (Willis 2002: 13). There is an issue on residuality and re-deposition of samples in the same way as ceramics, as discussed above. This is likely to bring earlier dates than expected, hence, a solution could involve the use of "*carbonized grains*" as they tend not to "*survive the re-working of site deposits*" as much as wood materials (*ibid.*: 13). In fact, according to Willis (*ibid.*), recent studies in north-eastern England have used carbonized grains for dating. However, there remains another issue on incorporation of samples to earlier contexts. For instance, small samples like grains are possibly moved downwards by agencies such as "*animal burrowing or root action*" (Bowman 1990: 51). This issue also has problems regarding contemporaneity between ceramics and samples for radiocarbon dating, alongside potential problems on the property and pretreatment of samples. Even if radiocarbon dating techniques and calibration curves are continuously improved, appropriate dating of finds and their related features may be unavailable until problems with contemporaneity are reduced.

In order to lessen this problem, more direct dating approaches should be required. According to a recent direct dating study by Berstan *et al.* (2008: 702), there have been various approaches using "*geological carbon remaining in the clay after firing, added organic temper, carbon from the fuel of the kiln and exogenous contaminants absorbed from the burial environment*" (*e.g.* De Atley 1980; Gabasio *et al.* 1986; Hedges *et al.* 1992; Mihara *et al.* 2004). However, carbide sticking to ceramic walls appears to be the most useful approach among them, given the sample availability from pottery for radiocarbon dating. But, there remain problems with carbide (soot) on the outside of ceramic walls as the material must have originated from firewood. Wood sample problems, including the "*Old Wood*" issue, could cause dating errors, as noted in the examination of Danebury's samples. Nevertheless, the approach of using carbide sticking to ceramic walls seems to be useful for dating ceramics because it is a more direct than traditional methods which have used organic materials recovered from contexts containing vessels. AMS dating enables us to use this approach as it needs only tiny amounts of samples: "*1 mg of organic carbon or less*" (*e.g.* Walker 2005: 23).

The effectiveness of this approach was suggested in British Iron Age studies of the early 2000s (*e.g.* Haselgrove *et al.* 2001: 5; Willis 2002: 13), and was later undertaken in a study of Hebridean Iron Age pottery (Campbell *et al*. 2004). The study revealed that AMS dating results of food residue on pottery were roughly correlated with ceramic phases based on their typological classification (*ibid.*: 82-4). However, there were some inconsistent dates, which were inferred to have been possibly caused by "*humic cross-linking with the food residues*" (*ibid.*: 83). According to the study's result, the study stressed a need for "*combination of a variety of scientific methods of dating, alongside stratigraphic and taphonomic studies*" (*ibid.*: 84), but re-examination of ceramic typological classification should be also required given my re-examination of existing studies in central-southern Britain. Furthermore, the Hebridean pottery study analysed only 20 samples in total for dating from three sites: Ellean Olabhat, Sollas site A and B (*ibid.*: 80-1), therefore, the number of samples should be increased. The Sweet Track study, in Somerset, used residue on Neolithic ceramics (Berstan *et al.* 2008) and showed that AMS radiocarbon dates of fatty acids recovered from ceramic sherds exhibited strong correlations with dendrochronological dates of wooden track (*ibid.*: 707). However, this study did not examine correlations between radiocarbon dates and detailed phases based on ceramic typological classification. Also, the six data samples appear to be insufficient for considering the effectiveness of this approach. Continuous further research is needed, as noted above with the Iron Age studies.

There appear to be very few studies using such methods on direct dating vessels in British prehistoric periods (*ibid*.: 702). However, in Japan many studies based on this approach have been accumulated since the late 1990s (*e.g.* Nakamura *et al.* 2001). Most of these studies seem to have been conducted by research members of the *National Museum of Japanese History* in cooperation with many other archaeologists (Nishimoto *et al.* web). This project for radiocarbon dating in prehistoric Japan started in 1995, and undertook analysis of residue on pottery in 1997 (Nishimoto *et al.* web1). The project team has produced a huge amount of data and studies which covered many areas of Japan, with information and results up to March in 2004 available on the project's web site. Samples' data (Nishimoto *et al*. web2) and studies (Nishimoto *et al*. web3) are included. These studies cover: 1) improvement of sampling and sample pretreatment methods; 2) correlations between ceramic typological classification, radiocarbon dates and dendrochronological dates; and 3) archaeological understanding of chronologies. They contributed to great developments in Japanese chronological studies, and recent studies continue to produce useful results for constructing more accurate and detailed ceramic chronologies (*e.g.* Kobayashi 2007; Kudou *et al.* 2007; Kobayashi *et al.* 2008), though there remain a number of problems with this approach for establishing chronologies (*e.g.* Nishida 2003; Kobayashi 2004; Miyaji 2009). Hence, in addition to such re-examinations, studies from different viewpoints are also being produced to refine of existing chronologies including a re-examination of cross-dating between Japan, Korea and China (*e.g.* Okauchi 2004; Miyamoto 2004).

One important point for developing chronological studies appears to be the volume of data used in radiocarbon dating. Namely small quantities of samples are unlikely to be effective for constructing and assessing chronologies (Cunliffe 2005: 31). This must allow us to cross-check data between features, artefacts and sites which should then lead to a refinement of ceramic chronologies. Sampling for dating should use more appropriate finds closed within features and those from valid sequences. For example, a recent report of Warren Hill in Wiltshire examined different layers' samples for radiocarbon dating from a sequence of a deep enclosure ditch, SP 049 (Fulford *et al.* 2006: 43-5; see Figure 7.15). The dating analysis showed specific correlation between radiocarbon dates of animal bones and stratified layers. In terms of associated vessels, it is difficult to confirm such clear correlation because the amount of ceramic illustrations presented in the report are small, only 15 sherds (*ibid.*: 102-5). However, there is unlikely to be specific inconsistency between ceramic types, layers and radiocarbon dates. Considering this situation, it seems that preferable sequences of features in settlements' peripheral areas such as enclosure ditches are effective for studying ceramic chronologies, as discussed in the previous section of this chapter.

Residue dating also needs to be supported by large sample sites. One main advantage of this approach is the availability of samples, pottery residues can be collected from materials including those from old excavations. The Danebury excavation collected "*1756 featured sherds from a wide range of forms and phases*" for considering residue, with 133 "*(48% organic; 18% limescale; 34% sooting)*" likely to be usable for examination (Brown 1995a: 55). Although the residue appears to have been collected mainly for considering functions of different types of ceramics, the sample could be also used for radiocarbon dating. AMS needs only a 1mg sample for dating, rendering such a method highly appropriate.

7.3.3.2 Other methods

Dendrochronology, archaeomagnetic dating and luminesence dating (Willis 2002: 13-6) are other effective physical and chemical methods for absolute dating of ceramics. Using dendrochronology to date ceramics appears to have been uncommon in British Iron Age studies until around 1990. This was probably because of the method's development, the popularity of radiocarbon dating, and the unavailability of samples from many Iron Age sites. Although there are dendrochronological studies (*e.g.* Morgan 1988; Coles and Minnitt 1995; May 1996), they are unlikely to be useful for dating as there is no match between samples, established dendrochronologies and existing chronologies (Willis 2002: 16). However, according to Hillam (1987), using this method on wood recovered from wetland sites seems to have yielded successful results (Hillam *et al.* 1990: 210). This can be seen in studies on the causeways at Fiskerton in Lincolnshire (Field and Parker Pearson 2003) and the log boat from Hasholme in Humberside (Millett and McGrail 1987).

Useful wood materials for dendrochronology tend to be available from wetland sites because of their preservation conditions. The Fens and the Severn Estuary are areas with great potential for dendrochronology, the Upper Delphs in Cambridgeshire for example, have provided various types of wood finds from an enclosure ditch (Taylor 2006). In the Severn Estuary, remains of wooden buildings and a trackway were obtained for dendrochronological dating at Goldcliff in Gwent (*e.g.* Bell 1992; Bell and Neumann 1997). Apart from wetland sites, various hillforts and other diffensive settlements could also be useful for dendrochronology in certain cases: for example, timber palisades, ramparts and gates (*e.g.* Barret *et al.* 2000). Furthermore, old material recovered from excavations before the 1980s may be effective for dating. There are a number of log boats found from diverse regions like Dorset, Somerset and Nottinghamshire, which were identified as Iron Age finds by radiocarbon dating (McGrail and Switzur 1975). Such samples could allow cross-checking between dates by different methods. "*Dendrochronology provides absolute dates accurate to the calendar year and qualitative and quantitative reconstructions of environmental variations on seasonal to century scales*" (Dean 1997: 31), hence, this method can be effective for establishing ceramic chronologies. Accumulation of wood sampling and its dendrochronological analysis in projects of wetland sites is essential for this purpose.

However, there remain three issues on the effectiveness of dendrochronology. Firstly, in order to define specific dates of artefact use and abandonment, temporal relationships between artefacts, including ceramics and wood samples, need to be clearly identified. In other words, re-deposition should be carefully taken into consideration, especially with excavations and recordings of sites near estuaries and rivers where tidal and water flow can heavily influence the sites. Secondly, the availability of appropriate wood samples for dendrochronology is important as this method needs the outermost tree rings for accurate dating to identify the date of a trees death (*e.g. ibid.*: 44). The availability of proper samples depends on the sites and the materials they produce in excavation. In terms of the availability of wood samples, there are a limited number of wetlands sites located in very specific areas. This might restrict the development of regional chronological frameworks through the use of dendrochronological dates. Thirdly, the construction of regionally dated master wood chronologies is required for interpreting various samples (*e.g.* Willis 2002: 16). Construction of west European (Irish and German oak) tree-ring chronologies were tackled in the 1970s to 1980s (Hillam *et al.* 1990: 210). According to Hillam and his colleagues (*ibid*.: 210), the chronologies dated back c. 7,000 years from the present, but the English regional tree-ring chronologies were, for some time, mainly limited to the historic period. Studies of English prehistoric tree-ring chronologies progressed from the late 1980s, especially in connecting East Anglian oak tree-rings to west European chronologies (Baillie and Brown 1988). The establishment of British regional chronologies based on cross-dating with standard west European chronologies leads to increased development in British dendrochronological studies.

Despite its low cost, Archaeomagnetic dating appears unpopular in British Iron Age studies even though its analysis is available at a relatively low cost (Willis 2002: 16). A rare example of its use can be found in Maiden Castle's report which produced three Iron Age sample dates (Clark 1991: 105). The precision of archaeomagnetic direct dating, ±25 years (Sternberg 1997: 323), also appears to be appropriate when compared with other methods. However, there are several issues with this method when dating archaeological finds. Sampling areas for this dating method were separated into four grades by the

Archaeological Research Laboratory in England: "*Category I (good); II (average); III (poor); IV (very poor)*" (Michels 1973: 135). Category I (good) is "*structures containing a substantial floor of well-baked clay*", and Category II (average) is "*kilns and ovens having an intact circumference of solid wall, not less than a foot in height; well-built clay hearth*" (*ibid.*: 135). Such useful sampling areas are unlikely to be readily available from many Iron Age sites and there is the added issue of contemporaneity between the sampling areas and ceramics (Willis 2002: 16). Furthermore, the dating needs regional archaeomagnetic "*secular variation curves*" (*e.g.* Michels 1973: 145). Therefore, progress with sub-divided regional curves is needed for more precise dating (*e.g.* Sternberg 1997: 327; Hirooka 2001: 53).

Luminescence dating methods including Thermoluminescence dating (TL) and Optical-stimulated luminescence dating (OSL) developed from the 1960s to the 1980s (Aitken 1997: 186). However, as the method's dating precision was less than that of radiocarbon dating, luminescence dating was unlikely to be adopted as well as radiocarbon dating (*ibid.*: 186). Although radiocarbon dating's error ranges seem to depend on samples' conditions, a single counting error (Σ=68.3%) by a conventional method is likely to give an error margin of ±40-150 years in the standard case (Taylor 1987: 95-6). With Danebury's samples, the errors lie in the ±60-110 year range (Cunliffe 1984a: 190-1). Moreover, the error range appears to be becoming less than ±20 years due to introduction of AMS technology (Bowman 1990: 40; Taylor 1997: 73). Meanwhile, the typical error range of luminescence dating is between ±5 and ±10% (Aitken 1997: 211). If the error is ±7.5%, a dating value of 2,000 years B.P. includes ±150 year error range, and that of 3,000 years B.P. contains ±225 year. In other words, the further back in time the greater error range. In terms of Iron Age Britain, luminescence dating, especially for earlier periods, could be ineffective for detailed ceramic chronologies given radiocarbon dating's accuracy (*pers comm.* Ian Bailiff). For example, a luminescence dating study of ceramics from Dragonby in Lincolnshire (Stoneham *et al*. 1996) examined four groups of 20 samples which were separated according to typology and stratigraphy (see Table 7.5). However, the groups' dates showed little difference "*because of the large errors on the TL dates (typically ±10%)*" (*ibid.*: 442; see Figure 7.16).

However, luminescence dating methods can directly date ceramic samples (*e.g.* Taylor 1997: 186), this is very useful for obtaining more reliable ceramic dates because issues on contemporaneity between dating samples and dated finds are avoidable. This usefulness is further emphasized given the flat range in the radiocarbon calibration curve between about 800 and 400 BC. Luminescence dating provides effective ceramic dating data for supplementing this period's uncertain chronology (Barnett 1997: 155). Luminescence dating's potential for ceramic dating in Iron Age Britain has been recently revealed by Durham University's specialist studies (Willis 2002: 14-16). However, these tended to focus on materials from north-eastern England, the east Midlands and East Anglia for the purpose of refining uncertain ceramic dating (*e.g.* Bailiff 1987; Barnett 1997, 2002). Case studies in other areas, where there are more defined ceramic chronological frameworks, should be undertaken in order to demonstrate the method's usefulness by cross-checking with existing chronological schemes. Ceramic samples for luminescence dating only need to be "*about 10 mm in thickness by 30 mm across*" (Aitken 1997: 190), hence, dating samples are readily available from many Iron Age sites. However, there remain problems with the materials' condition for luminescence dating. Aitken (*ibid.*: 190) noted about sample collection as follows:

> "*Undue exposure to daylight during collection should be avoided and the samples should be stored and transported in opaque containers. Most laboratories make a*

estimate of the 'as found' water content and for this purpose the samples should be tied up tightly in a plastic bag immediately after extraction from the ground, together with any adhering soil. For an evaluation of radioactivity, samples of soil-types and rocks that were within 0.3metres of the samples should be similarly tightly bagged".

If there are problems with such a careful sampling process, luminescence dating results will lack accuracy. Similarly, it must be remembered that "*the principal systematic errors associated with the determination of TL dates*" can happen (Stoneham *et al*. 1996: 442).

7.3.4 Summary

A variety of absolute dating methods have been adopted in British Iron Age studies. This has consisted of two approaches: historical cross-dating and physical and chemical scientific dating. According to the examination of historical cross-dating studies in central-southern Britain, three main problems seem to cause difficulty when considering ceramic chronologies with absolute dating methods. The main cause is likely to be the poor stratigraphic condition of both dating and dated finds' deposition. There were serious issues on contemporaneity between ceramics and their potential re-deposition. Such issues between ceramics and different kinds of artefacts appeared to be more serious than when solely examining ceramics. This seems to have reduced the number of useful dated objects, such as coins and brooches, for cross-dating. In order to solve these problems, dated finds and ceramics are recovered together from well-stratified contexts and features, such as deep enclosure ditches, basal layers of pits and burials. Although such preferable situations are unlikely to be readily available from Iron Age sites in central-southern Britain, it is important to update data for cross-dating between dated finds and ceramics with other absolute dating samples added wherever possible.

In terms of physical and chemical scientific dating, four methods were examined: 1) radiocarbon dating; 2) dendrochronology; 3) archaeomagnetic dating; and 4) luminescence dating. Radiocarbon dating seems to be most commonly used of these methods for ceramic chronological studies in Iron Age Britain, but there are a number of issues with its use, including the properties, re-deposition and contemporaneity between ceramics and the samples. According to examinations of excavation reports, such issues tend not to have been sufficiently discussed for dating ceramics. This should be seriously re-considered as these issues can greatly affect ceramic dating, simplistic application of radiocarbon dates to ceramic chronologies involves great risk. However, it is clear that radiocarbon dating is necessary for constructing ceramic chronologies. In addition to careful consideration of the above issues, it is important to increase useful dating samples from well-stratified contexts and to cross-check dating results between many sites. This should result in the further refinement of ceramic chronologies. Furthermore, in order to reduce problems with contemporaneity and re-deposition analysis of pottery residues are useful for more reliable ceramic dating. Studies of pottery residues were undertaken soon after the introduction of AMS to radiocarbon dating. The results of such studies can be seen in Japanese prehistoric research since the late 1990s. This approach also has advantages in terms of the relatively easy availability of samples, they are likely to be available from many sites and old excavations' materials.

Other absolute dating methods tend to be uncommon in ceramic chronological studies in Iron Age Britain. Apart from their technical problems, one of the main reasons for this seems to be the inconvenient circumstances of British Iron Age sites when using these methods. In terms of dendrochronology and archaeomagnetic dating, the main issues were the availability of samples and the contemporaneity between dating samples and ceramics. As these methods depend on the condition of excavated materials and the location of sites, there was difficulty in obtaining data useful for considering ceramic chronologies. Meanwhile, luminescence dating has issues with the dating error range and sampling methods. Another reason for their scarcity is that these methods require more cost and time than radiocarbon dating. However, this is unlikely to be applicable to luminescence dating, and the dating method's comparative unpopularity could be because ceramic specialists have simply not been interested in the method (*pers comm.* Ian Bailiff). Despite such issues on these dating methods, they have strong advantages such as dating accuracy and direct determination of ceramic dates, which radiocarbon dating does not provide. Hence, these advantages should be utilised in order to balance radiocarbon dating's shortcomings. Furthermore, cross-checking absolute dates produced by different dating methods allows identification of existing ceramic chronological and typological problems to be made, as well as refining our existing chronological understanding of British Iron Age ceramics.

7.4 Conclusion

There are two broad conclusions to be drawn. Firstly, stratigraphic information, in combination with many diagnostic ceramic sherds, is essential for arranging typologically classified vessels in relative chronological order. The case study sites identified that these two factors were inadequate for considering ceramic relative chronological order in Iron Age central-southern Britain. Similarly, they showed that the ceramic information, including stratigraphy, presented in publications was often insufficient and complex. The stratigraphic circumstances of many Iron Age settlements were poorly preserved.

Problems with accessibility and complexity of the ceramic information have been little noted in ceramic chronological studies, probably due to so few studies using such data. Given the difference in roles between excavation reports, recordings and archives, ceramic information should be presented in excavation reports, web sites and CD-ROMs. Information on correlations between ceramic sherds and their stratigraphy is especially important, it must be presented in a clear manner due to this information's complexity. Such presentation of ceramic information will allow the re-examination and the creation of ceramic classifications and schemes.

Residuality and deposition have long been addressed in both theoretical and practical terms since the 1970s. Most studies appear to have revealed complex correlations between ceramic types and their stratigraphy. Although there are studies examining intentional ceramic deposition, a number of problems with such studies are identified. Most ceramics are excavated from the central areas of sites. Thus, with heavy occupation activity the stratigraphy tends to be unclear. Extensive excavation of peripheral area could solve this problem as such areas, like enclosed ditches, tend not to suffer such heavy disturbance.

Secondly, there are various absolute dating methods which can be used to assess relative ceramic chronologies. These consist of two categories: historical cross-dating and physical and chemical scientific dating. Studies of the former in central-southern Britain have three main problems which do not readily allow the application of absolute dates to ceramics. The problems are chiefly due to the poor stratigraphic condition of finds' deposition. In order to acquire appropriate materials for cross-dating, they are required to be recovered from well-stratified contexts and features such as deep enclosure ditches, basal layers of pits and burials. As noted above, this is unlikely to occur as most current excavations are focused on occupation areas of sites with heavy stratigraphic disturbances.

Despite this, updating data for cross-dating is very important because it could enable comparison with ceramics and other absolute dating samples in future studies.

Physical and chemical scientific dating methods are composed of four approaches: 1) radiocarbon dating; 2) dendrochronology; 3) archaeomagnetic dating; and 4) luminescence dating. Radiocarbon dating is most commonly used in Iron Age ceramic chronological studies, however, it has many issues with its application. These include the properties of the methods and samples, their re-deposition and issues with contemporaneity between ceramics and the samples. Given the problems with existing radiocarbon dated studies, such issues should be seriously re-examined as they may have had a great influence on existing ceramic chronologies. Importantly, for refining chronologies numbers of appropriate dating samples must be increased and the results constantly compared with those of other sites. A potentially useful source of dating samples could be pottery residue, whose dating has been made possible by the development of AMS dating. In terms of the availability of samples, there are strong advantages in this approach, which can also reduce problems with contemporaneity between ceramics and the samples.

There are also several issues with other absolute dating methods, including dendrochronology and archaeomagnetic dating. Their main issues are the availability of samples and the contemporaneity between dating samples and vessels. Although obtaining effective data for dating is difficult, advantages like accuracy are useful in combination with other absolute methods. Luminescence dating's great strength is in the direct dating of ceramics, however, the method is unlikely to be effective for ceramic dating in the earlier Iron Age due to its relatively broad error range. All the absolute methods provide cross-checking of dates with other methods' results. Such comparison between the results produced by different dating methods will lead to their increasing effectiveness and refinement of existing ceramic classifications and chronologies.

Chapter 8

Conclusion

8.1 Introduction

The objectives of this study were to re-examine classifications and chronologies of Iron Age pottery in central-southern Britain. It was expected that this examination would produce new schemes of pottery, revising existing frameworks. It was also hoped that this re-examination would both expose the importance, and reinvigorate the production, of this type of study. The need for this type of re-examination was clear from the lack of such studies in the recent literature and also a number of issues with existing frameworks. For example, the small number of the studies on the topic can be seen in the seven major collections of papers about Iron Age Britain and its prehistoric pottery. Although they contain 141 papers, some of which addressed chronological questions, there are very few practical studies of pottery classification and chronology (see Tables 8.1-8.8). As Pare has recently stated, "*In archaeological practice, there is a permanent endeavour to improve and refine chronological schemes by defining ever-finer phases to describe changes in material culture*" (2008: 69). However, this does not appear to be the case with Iron Age ceramics in Britain.

In order to understand the above issues more clearly, the theoretical basis for prehistoric pottery studies was first reviewed in Chapter 2, focusing on classification and chronology. This review showed four clear stages, which began with the fashion for culture-historical studies. Theoretical studies of prehistoric pottery produced various discussions and approaches in the recent stages, using techniques borrowed from disciplines other than archaeology, although it is uncertain how effectively they have been applied to actual materials.

Given this, studies of Iron Age pottery in Britain were examined in Chapter 3 to identify the types of analysis which should be prioritised in current and future studies. Firstly, approaches to the construction of chronological frameworks were considered. The examination of existing studies revealed that chronological frameworks of Iron Age Britain were based on various factors, such as artefacts, culture, settlements and social aspects. This created frameworks which were complex and unwieldy, and difficult to compare with each other. It was inferred that these issues had affected various studies based on chronologies. Consequently, the need for a specific criterion for chronological divisions was proposed to solve the problems. Additionally, the marked advantages of ceramic chronologies were demonstrated, and it was recommended that other artefact chronologies and social and cultural aspects should be considered on the basis of ceramic chronologies with absolute dates.

Secondly, in terms of the history of the pottery studies, they tended to focus on culture-historical studies based on pottery classifications in the earlier period. However, accurate scientific methods began to be introduced into Iron Age pottery studies mainly after the 1970s and then, other study themes including socio-cultural aspects became popular. This resulted in the stagnation of fundamental studies of pottery, especially classification and chronology. Although some such studies continued to be undertaken, development was insufficient both methodologically and practically, with the exception of some studies from the 1970s to the 1980s. For the purpose of exploring the specific issues of these fundamental studies, central-southern Britain was selected as the research area. This was in part because the region produced influential schemes of Iron Age pottery, but also because it has provided large quantities of pottery, compared with other regions.

8.2 Revised Iron Age chronologies in central-southern Britain

Chapter 4 firstly defined the concepts of ‘type’ and ‘typology’ in archaeology, which were important for the classification and chronology of prehistoric pottery, through a brief review of the history of studies on these concepts. Secondly, the examination of existing typological studies of British Iron Age pottery revealed that many recent studies tended to rely on the Danebury scheme and thus, it was interrogated in detail. Consequently, a number of significant issues with the scheme were demonstrated, which stressed the need for re-examination and refinement of existing classifications and chronologies of Iron Age pottery. Thirdly, the basic approaches to ceramic classifications and chronologies were considered. The three-tier structure, ‘types’, ‘forms’ and ‘styles’, was proposed for simple understanding of compositions of ceramic assemblages. Subsequently, three visual factors, shape, size and decoration, were selected for typological classification of Iron Age pottery. This was because they appeared to be useful for the classification and to be readily available from published sources, which allows for a relatively easy re-examination of the data.

Chapter 5 explored more objective methods useful for typological classification of Iron Age pottery, using the ceramics from Hengistbury Head. Two methods were considered, based on the shortcomings in existing approaches and the availability of ceramic data. Method 1 produced detailed classifications of pottery on the basis of statistical analyses of upper body proportions and sizes with characteristics in shapes of various parts. However, this proved to be too complex because of the vast variety and the lack of data on stratigraphy. To solve this problem, the classification based on size differences was omitted as the statistical analyses appeared not to provide only clear groupings. Consequently, morphological classifications of pottery were adopted in Method 2, however, the statistical classification of body proportions was maintained as it appeared to be useful for the fundamental classification of ceramic shapes.

According to the established methods above, further case studies were undertaken for constructing regional frameworks of Iron Age pottery in Chapter 6. Although the studies appeared to produce appropriate classifications of the pottery, there were limitations with the available chronological data such as stratigraphy, dated objects and other materials with absolute dates. Consequently, the presentation of the regional chronological framework had to rely on the Danebury framework produced by use of relatively useful data. Ceramics were broadly separated into two phases unlike Cunliffe's scheme (Cunliffe 1974, 1984b, 1991) which has many phases; the border between the two phases was inferred to lie between 450 and 300 BC (see Table 6.30), based on the available data from absolute dating methods. The ceramic assemblages in each phase were also characterised by the differences in several factors including rim shapes, decoration patterns and sizes. It was then considered that the earlier phase corresponded to the Hallstatt culture period and the later phase was equivalent to the La Tène culture period, to which the majorities of ceramic assemblages analysed in the case studies tended to belong.

Given this, the comparison of ceramics between the case study sites was made. In terms of the ratio of neck diameters to max diameters, the ceramic assemblages were similarly separated into three groups which were considered to make up the bulk of Iron Age pottery in the Andover region, except those from Hengistbury Head, with some notable distinctions. However, the structural proportions of the groups showed diversity between the sites, which were also identified in the examinations of locations, sizes and types of sites. Such diversity implied the complexity of activities related to Iron Age pottery, such as production, distribution and exchange. In order to illuminate these, it is essential to develop studies of classification and chronology of pottery.

8.3 Future prospects

The above studies also revealed a number of important issues of classification and chronology of Iron Age pottery, which were broadly separated into two groups in Chapter 7. Firstly, the stratigraphic context for the Iron Age pottery was often missing or incomplete. In order to construct ceramic chronologies, adequate quantities of diagnostic sherds, proper presentations of stratigraphic information and well-conditioned stratified sequences are all required. The case studies identified gaps in our available information. While diagnostic sherds are frequently recovered, their numbers (and the contexts in which they are found) are not adequate to answer questions of relative chronology. There are many difficulties in solving this problem, which suggests that we will have to rely on the results of future excavations. Secondly, there is a need to improve the presentation of stratigraphic information, especially regarding its accessibility and complexity. In terms of the accessibility, web sites and CD-ROMs are useful for the presentation of this type of information. They have advantages in presenting huge quantities of data at low cost, compared with publications. It is also important to accompany ceramic illustrations with the stratigraphic data as this allows easy identification of correlations between ceramics and their stratigraphy. A *Harris Matrix* (Harris 1979) can also be a useful way to present complex stratigraphic information.

It is important also to consider what types of information are included in excavation reports. There are various limitations in their publication like cost and time; therefore, careful selection of data for presentation is often required. However, the priority should lie with primary data on artefacts, contexts and sites rather than interpretations, as this allows for various studies and re-examinations. According to the above examinations, this was not sufficiently practiced in many excavation reports. Although primary data is available from excavation records and archives, it is very hard for third persons to understand the data appropriately and there also can be difficulties in its accessibility. For these reasons, it is essential for excavation reports to present the primary data.

Issues such as residuality and deposition further complicate the use of stratigraphic data. These issues have been discussed from theoretical and practical viewpoints since the 1970s (*e.g.* Schiffer 1972, 1976). British Iron Age studies also identified the complexity in correlations between ceramics and their stratigraphy (*e.g.* Lambrick 1984; Hill 1995a; Lock 1995). Given these, large scale excavations of ditches are recommended rather than the ramparts and insides of settlements which were main areas of past and current excavations. Ditches have huge volumes of fill and suffer a relatively small degree of post-depositional disturbance, whilst it can be inferred that the fill tended to be deposited intermittently. These advantages have the potential to be useful for examining relations between stratigraphic data and ceramic types.

Secondly, the issue related to methods of absolute dating which were classified into historical cross-dating and physical and chemical scientific dating. Historical cross-dating methods have difficulty establishing contemporaneity between ceramics and dated objects, which is associated with the above issues on stratigraphy. There were also few dated objects useful for considering ceramic dates in the settlement sites. These problems have to be solved by future excavations with strategic projects, as noted above. In terms of physical and chemical scientific dating, radiocarbon dating, dendrochronology, archaeomagnetic dating and luminescence dating were considered. Radiocarbon dating is one of the most useful dating methods, however, the examinations of excavation reports demonstrated that it has been applied to Iron Age vessels without adequate review. Given this and its great influence on chronologies, it was stressed that a number of issues with its use should be carefully examined for ceramic dating: for example, the properties of the method, re-deposition and contemporaneity between ceramics and dating samples. In terms of techniques in the method, analysis of pottery residues including soot, which the introduction of AMS allowed, was recommended as it can date ceramics more directly than other samples recovered from the same contexts. There was also another advantage of the analysis in the availability of samples. The accumulation of these would lead to construction of more reliable chronologies of pottery, other objects and sites.

It was shown that the other three methods were relatively unpopular in chronological studies of Iron Age pottery in Britain. In terms of dendrochronology and archaeomagnetic dating, there were often difficulties in availability of dating samples and contemporaneity between them and the ceramics. There were issues with dating error ranges and sampling methods in luminescence dating. Their accuracy and direct determination of ceramic dates are more useful than radiocarbon dating, therefore, they are also needed for refining ceramic chronologies. In other words, it is important to increase data based on the individual methods and compare the data produced.

In order to develop the current chronologies, a number of key points proposed in this section should be carried out. These fundamental and detailed works have the potential to lead to the creation of reliable classifications, chronologies and historical narratives.

Typological Classification and the Chronology of Iron Age pottery in central-southern Britain

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Table 2.1 Main phases and themes in the study of archaeological ceramics
(source: Orton, Tyers and Vince 1993)

Phase	Art-historical	Typological	Contextual
Date	1500+	1880+	1960+
Scale	whole pots	sherds	microscopic to assemblages
Parallel theme	Archaeometry technology	Archaeometry quantification technology	Archaeometry ethnography quantification technology

Table 2.2 Comparative data on the division of labour by sex (source: Murdock 1937)

	M	M–	=	F–	F	PER CENT
Metal working	78	0	0	0	0	100.0
Weapon making	121	1	0	0	0	99.8
Pursuit of sea mammals	34	1	0	0	0	99.3
Hunting	166	13	0	0	0	98.2
Manufacture of musical instruments	45	2	0	0	1	96.9
Boat building	91	4	4	0	1	96.0
Mining and quarrying	35	1	1	0	1	95.4
Work in wood and bark	113	9	5	1	1	95.0
Work in stone	68	3	2	0	2	95.0
Trapping or catching of small animals	128	13	4	1	2	94.9
Work in bone, horn and shell	67	4	3	0	3	93.0
Lumbering	104	4	3	1	6	92.2
Fishing	98	34	19	3	4	85.6
Manufacture of ceremonial objects	37	1	13	0	1	85.1
Herding	38	8	4	0	5	83.6
House building	86	32	25	3	14	77.0
Clearing of land for agriculture	73	22	17	5	13	76.3
Net making	44	6	4	2	11	74.1
Trade	51	28	20	8	7	73.7
Dairy operations	17	4	3	1	13	57.1
Manufacture of ornaments	24	3	40	6	18	52.5
Agriculture—soil preparation and planting	31	23	33	20	37	48.4
Manufacture of leather products	29	3	9	3	32	48.0
Body mutilation, e.g., tattooing	16	14	44	22	20	46.6
Erection and dismantling of shelter	14	2	5	6	22	39.8
Hide preparation	31	2	4	4	49	39.4
Tending of fowls and small animals	21	4	8	1	39	38.7
Agriculture—crop tending and harvesting	10	15	35	39	44	33.9
Gathering of shellfish	9	4	8	7	25	33.5
Manufacture of non-textile fabrics	14	0	9	2	32	33.3
Fire making and tending	18	6	25	22	62	30.5
Burden bearing	12	6	33	20	57	29.9
Preparation of drinks and narcotics	20	1	13	8	57	29.5
Manufacture of thread and cordage	23	2	11	10	73	27.3
Basket making	25	3	10	6	82	24.4
Mat making	16	2	6	4	61	24.2
Weaving	19	2	2	6	67	23.9
Gathering of fruits, berries and nuts	12	3	15	13	63	23.6
Fuel gathering	22	1	10	19	89	23.0
Pottery making	13	2	6	8	77	18.4
Preservation of meat and fish	8	2	10	14	74	16.7
Manufacture and repair of clothing	12	3	8	9	95	16.1
Gathering of herbs, roots and seeds	8	1	11	7	74	15.8
Cooking	5	1	9	28	158	8.6
Water carrying	7	0	5	7	119	8.2
Grain grinding	2	4	5	13	114	7.8

Table 3.1 The chronological scheme (1) in Iron Age Britain by Hawkes (1959)

Periods	Continental chronologies	Cultures	Dates
Iron 1	Hallstatt II and early La Tène I	First A	550-350 B.C.
Iron 2	middle La Tène I to middle La Tène II	Second A, First & Second B	350-150 B.C.
Iron 3	middle La Tène II through La Tène III	Second & Third B, First to Third C	150 B.C. to beginnings of Romano-British culture, varying regionally from A.D. 43/4 onwards

Table 3.2 The chronological scheme (1) in Iron Age Britain by Hodson (1964)

Phases	Cultures	Dates
Earliest Pre-Roman Iron Age (Early)	Woodbury (Early) / Hallstatt C and D	750/700 - 450/400 BC
Earlier Pre-Roman Iron Age (Early)	Woodbury (Early) / La Tène I and II	450/400 - 100/50 BC
Late Pre-Roman Iron Age	Woodbury (Late) / La Tène III	100/50 BC - 43 AD

Table 3.3 The ceramic chronological scheme in Iron Age southern Britain by Cunliffe (1974a, 1978)

Style-zones	Dates
The Ultimate Deveral-Rimbury culture, The Early All Canning Cross group	Eighth and Seventh century BC
The Later All Canning Cross group, The Kimmeridge-Caburn group	(Seventh and) Sixth century BC
The All Canning Cross-Meon Hill group, The Park Brow-Caesar's Camp gruoup	The Fifth to the Third century BC
The St Catharine's Hill-Worthy Down style, The Maiden Castle-Marnhull style	Third to First century BC
Durotrigian ware, Atrebatic ware	First century BC to First century AD

Table 3.4 The chronological division in Iron Age Britain by Cunliffe (1974a) based on social change

Social development stages	Dates
Early Iron Age society	750 – 100 BC
Late Iron Age warfare and society	100 BC – AD 43

Table 3.5 The chronological division in Iron Age Britain by Cunliffe (1974b) based on various factors

Developmental phases	Dates
The phase of innovation	750 – 500 BC
The phase of development	500 BC – AD 43-84

Table 3.6 The chronological scheme in Iron Age Britain by Cunliffe (1978) based on social change

Social development stages	Dates
Social organisation and economy	1500 – 500 BC
Tribal society	500 – 100 BC
Late Iron Age warfare and society	100 BC – AD 43

Table 3.7 The chronological scheme in Iron Age Britain by Collis (1977b)

Phases	Continental chronologies	Dates
Earliest Iron Age (or Latest Bronze Age)	(Hallstatt C and D)	700 B.C. - 500 B.C.
Early Iron Age	(La Tène A and B)	500 B.C. - 250/200 B.C.
Middle Iron Age	(La Tène C)	250/200 B.C. - 100/50 B.C.
Late Iron Age	(La Tène D)	-

Table 3.8 The chronological scheme in Iron Age Britain by Darvill (1987)

Phases	Social development stages	Dates
Early and Middle Iron Age	Tribes and chiefdoms	600 - 100 BC
Late Iron Age	Political societies	100 BC - AD 50

Table 3.9 The chronological scheme in Iron Age Britain by Elsdon (1989)

Phases	Dates
Late Bronze Age to Early Iron Age	1000 - 800 B.C.
Early Iron Age	800 - 600 B.C.
Middle period	600 - 300 B.C.
Later Middle period	300 - 100 B.C.
Late period	First century BC: pre Gallo-Belgic
Very Late period	15-10 BC to first decades of Roman occupation

Table 3.10 The ceramic chronological scheme in Iron Age southern Britain by Cunliffe (1991, 2005)

Phases	Style-zones	Dates
Earliest Iron Age	The Early All Canning Cross group, The Later All Canning Cross group, The Kimmeridge-Caburn group	800 - 600 BC
Early Iron Age	The All Canning Cross-Meon Hill group, The Park Brow-Caesar's Camp gruoup	600 - 400/300 BC
Middle Iron Age	~ *The Saucepan Pot continuum* ~ The St Catharine's Hill-Worthy Down style, The Maiden Castle-Marnhull style	400/300 - 100 BC
Late Iron Age (Latest Iron Age)	Durotrigian ware, Atrebatic ware	1st century BC – early 1st century AD (0 ~ early 1st century AD)

Table 3.11 The chronological division in Iron Age Britain by Cunliffe (1991, 2005) based on social change

Social development stages	Dates
Earliest, Early and Middle Iron Age	800 – 100 BC
The Late Iron Age reorganization	100 BC – AD 43

Table 3.12 The chronological scheme in Iron Age Britain by Hill (1995b)

Phases	Dates
Early (Pre-Roman) Iron Age	700 BC - 450 BC
Middle (Pre-Roman) Iron Age	450 BC - 100 BC
Late (Pre-Roman) Iron Age	100 BC - AD 43

Table 3.13 The Iron Age chronological scheme in the south and east of Britain by Haselgrove (1999)

Phases	Dates
Early	800/700 BC - 300 BC
Middle	300 BC - 100 BC
Late	100 BC - AD 43

Table 3.14 The Iron Age chronological scheme in the north and west of Britain by Haselgrove (1999)

Phases	Dates
Earlier Iron Age	(800/700 BC) until the fourth century BC
Later Iron Age	300 BC (to the first century AD, Roman conquest: AD 43/84)

Table 3.15 The Iron Age chronological scheme in southern England by Gibson (2002)

Phases	Dates
Earlier Iron Age	600 BC - 350 BC
Middle and Late Iron Age	350 BC to the Roman incursions

Table 3.16 The chronological scheme in Iron Age Britain by Haselgrove *et al*. (2001)

Phases	Dates
Earlier pre-Roman Iron Age	800 - 300 BC
Later pre-Roman Iron Age	300 BC - AD 100

Table 3.17 The chronological scheme in Iron Age Britain by Haselgrove and Moore (2007) and Haselgrove and Pope (2007)

Phases	Dates
Earlier Iron Age	800 – 400/300 BC
Later Iron Age	400-300 BC - the Roman conquest

Table 3.18 The Iron Age chronological scheme of Maiden Castle by Wheeler (1943)

Site development stages	Site development phases	Dates
The first Maiden Castle	Iron Age I	300B.C. and after
The Iron Age A Extension of Maiden Castle	Iron Age II	200 B.C.
The arrival of the Iron Age B culture	Iron Age III	First half of first century B.C.
The developed Iron Age B phase	Iron Age IV	Beginning of the first century A.D.
Iron Age C: The Belgae at Maiden Castle	(Iron Age V)	A.D. 25 - 44

Table 3.19 Old (left) and new (right) ceramic chronologies of Danebury (source: Cunliffe 1984a, Cunliffe 1995)

Ceramic Phase	Cunliffe 1984a		Ceramic Phase	Cunliffe 1995
1-3	550-450 BC		3	470-360 BC
4-5	450-400 BC		4-5	360-310 BC
6	400-300 BC		6	310-270 BC
7	300-100/50 BC		7	270-50 BC
-	-		8-9	50 BC-AD 50

Table 3.20 Danebury's developmental chronology of the Iron Age (Cunliffe 1984b)

Periods	Ceramic phases
Earliest Iron Age	-
Early Iron Age	1-3
Middle Iron Age	4-5
Late Iron Age	6-7
Latest Iron Age	-

Table 3.21 The chronological scheme of Old Down Farm in the Iron Age (Davies 1981)

Phases	Dates
Earliest Iron Age	8th century BC
Early Iron Age	7th century BC
Early Iron Age	6th - 4th century BC
Early Middle Iron Age	Late 4th century BC
Middle Iron Age	3rd – 1st century BC
Late Iron Age / Early Roman	Mid 1st to early 2nd century AD

Table 3.22 The chronological scheme of the Iron Age in Balksbury Camp (Wainwright and Davies 1995)

Ceramic phases	**Absolute dates**	**Site phases** (Site development)
Late Bronze to early Iron Age	1100 - 900 BC	Late Bronze to earliest Iron Age
Early Iron Age	900 - 500 BC	Early Iron Age
Early to Middle Iron Age	500 - 400 BC	Early Iron Age
Middle Iron Age	400 - 300 BC	Middle to Late Iron Age
Middle to Late Iron Age	300 - 50 BC	Middle to Late Iron Age
Late Iron Age	50 BC - AD 50	Late Iron Age to early Roman
Late Iron Age to early Roman	AD50 - 150	Late Iron Age to early Roman

Table 3.23 The regional developmental chronology of the Iron Age in the Andover area (Cunliffe 2000)

Regional development	**Absolute dates**	**Ceramic phases**	**Periods**
The new landscape	800 - 300 BC	1-5	Late Bronze Age to Early Iron Age
A new order	300 - 100 BC	6, **7**	Middle to Late Iron Age
The second transition	100 BC - AD 50	**7**, 8, 9	Late to Latest Iron Age

Table 3.24 The chronological scheme of the Atlantic Iron Age by Foster (1989, 1990)

Periods	**Dates**
Early Iron Age	The early centuries of the 1st millennium BC to (around the 2nd century BC)
Middle Iron Age	(around the 2nd century BC to AD 230)
Late Iron Age I	AD 230 - 625
Late Iron Age II	AD 625 to the 8th or 9th centuries AD

Table 3.25 The ceramic chronological scheme of the Cornish Iron Age by Quinnell (1986)

Periods	**Dates**
Earlier Iron Age	600 – 400 BC
Later Iron Age	400 BC – the beginning of the Roman period

Table 3.26 The chronological scheme of northern Cotswolds in the Iron Age by Marshall (1978)

Phases	**Periods**	**Dates**
1 : Chastleton - Shenberrow	(Earlier Iron Age)	6th - 3rd centuries BC
2 : Salmonsbury – Broadway	Later Iron Age	4th/ 3rd - 1st centuries AD
3 : Bredon Hill – Danes Camp	Later Iron Age	4th/ 3rd - 1st centuries AD

Table 3.27 The chronological scheme of Gloucestershire in the Iron Age by Saville (1984)

Periods	**Dates**
The Early phase	700 - 400 BC
The Middle phase	400 - 100 BC
The Late phase	100 BC - the 1st century AD

Table 3.28 The chronological scheme of Severn-Cotswolds Iron Age by Moore (2006, 2007ab)

Periods	**Dates**
Early Iron Age	800 – the 4th century BC
Later Iron Age (late or latest)	The 4th century BC – the 1st century AD (1st centuty AD)

Table 3.29 The chronological scheme of the eastern Iron Age by Cunliffe (1968)

Ceramic style-zones	**Dates**
West Harling	the 6th century BC
Fengate - Cromer	the 5nd century BC and later
Darmsden	the 4th - 3rd centuries BC
Local developments (undefined)	the 2nd - 1st centuries BC

Table 3.30 The chronological scheme of the eastern Iron Age by Cunliffe (2005)

Ceramic style-zones	**Periods**	**Dates**
West Harling – Staple Howe	Earliest	800 - 600 BC
Fengate-Cromer	Early	600 - 400/300 BC
Darmsden – Linton	Early	600 - 400/300 BC
Breedon – Ancaster scored pottery	Middle	the 5th – the 1st centuries BC
Mucking – Crayford, Husbury – Draughton, Sleaford - Dragonby (& plain and decorated bowls, Jar continuum) Aylesford – Swarling	Late - Latest	the 1st century BC – the early 1st century AD

Table 3.31 The “*ideal*” Iron Age chronological scheme (1) in the East Midlands by Willis (2006)

Conventional label for era during the first millennium BC in Britain	***Some diagnostic indicators in the East Midlands***	***Approximate date range***
The Late Bronze Age (LBA)	Post-Deverel-Rimbury Plainware pottery; Ewart Park metalwork; ‘ringfort’ sites; absolute dating	*c.* 1000 BC–800 BC
The Late Bronze Age–Early Iron Age Transition and the Early Iron Age (LBA-EIA)	Plainware pottery (not chronologically specific); metalwork styles; absolute dating	*c.* 800 BC–450 BC
The Middle Iron Age (MIA)	Ancaster-Breedon style pottery; metalwork styles, including certain brooch forms; beehive querns appear; absolute dating	*c.* 450 BC–100 BC
The Late Iron Age (LIA)	More visible settlement and material culture record; elaborate pottery forms, some wheel-made, in some places; metalwork styles, including certain brooch forms; coinage; absolute dating	*c.* 100 BC–AD 50

Table 3.32 The "*ideal*" Iron Age chronological scheme (2) in the East Midlands by Willis (2006)

Conventional label for era and evaluation of dating indicators	*Dating outcome*
The Late Bronze Age (LBA)	
• Dating indicators are generally infrequent, but more readily diagnostic than for the succeeding era • Post-Deverel-Rimbury Plainware pottery is identifiable with some confidence, although recovered groups are uncommon • The possibility that LBA tradition pottery may have endured in the Peak region for centuries into the first millennium BC (cf. Bevan 2000) requires consideration • Ewart Park metalwork is widespread across the region, but only occasionally recovered from settlement sites and is rarer still as a stratified site find • Confidence in previous radiocarbon dates may be questionable in terms of what was dated and given the implications of some relatively recent programmes in southern Britain (Needham and Ambers 1994; Bell 1990)	• Allocations of sites, phases and evidence to this period are probably reasonably reliable, although the beginning and end of the Late Bronze Age is chronologically fuzzy; neither was abrupt, both evidently being processes unfolding over many decades
The Late Bronze Age–Early Iron Age Transition and the Early Iron Age	
• Generally dating indicators are infrequent and 'weak' • Settlements attributable to the period are not numerous • Plainware pottery styles predominate and are not chronologically specific • Metalwork (such as stylistically Hallstatt items) is very uncommon; some iron artefacts could be Bronze Age • Major problem with radiocarbon calibration curve begins • Absolute dating has been crucial in some cases, but suitable samples are sometimes elusive; some old samples are now considered unreliable	• The umbrella nature of this broad phase reflects a characteristic vagueness in record and our present ability to chronologically categorize its associated sites/evidence
The Middle Iron Age (MIA)	
• Pottery styles are conservative • Ancaster-Breedon style pottery continues in use into the first century AD • Metalwork, including brooches, is very rare, and often 'unusual' / atypical / 'selected' for deposition • Generally the artefact range is limited and chronologically unspecific • C14 dating continues to be problematic, while erstwhile sampling 'strategies' were unrobust before the 1990s	• Attribution of sites to this period has placed them within broad date ranges • C14 (and luminescence) dating has been imprecise • Erstwhile reliance on a few metalwork items for dating now seen as suspect • At some sites, viewed on the basis of their material culture, the MIA extends to *c.* AD 50
The Late Iron Age (LIA)	
• More visible settlement remains and numerous material culture remains characterize the LIA in some parts of the region; these are varied and relatively 'well studied' • LIA 'fingerprints' are far from universal • Coinage, where present, is very rarely stratified in unequivocally IA contexts • Metalwork finds are everywhere rare before the first century AD • Brooches, more common during the first half of the first century AD, are often not closely dateable; their dating is frequently not in accord with dates ascribed to the pottery • Not all LIA sites yield LIA evidence • In contrast to areas in the south, the East Midlands only sees a modest (relatively late) influx of datable imports from the Roman world at this time	• Dating is generally more readily accomplished, and is comparatively more reliable and 'precise' during this phase than during any other phase ofthe first millennium BC • Dating, nonetheless, lacks definition, with, particularly, a difficulty in attributing evidence to dates within the first century BC, rather than simply ascription to broad ranges • Changes in pottery styles (where these occur) are useful indices • The Roman 'Conquest' is not readily identifiable

Table 3.33 The Iron Age chronological framework in Norfolk by Davies (1996)

Periods	Dates
Early Iron Age	700 - 450 BC
Middle Iron Age	450 - 100 BC
Late Iron Age	100 BC – AD 61

Table 3.34 The Iron Age ceramic chronological framework in Norfolk by Percival (1999)

Periods	Dates
(Late Bronze Age) Early Iron Age	900 - 500 BC
Middle Iron Age	500 - 200 BC
Late Iron Age	200 BC - (the 1st century AD)

Table. 4.1 The typological classification of pottery from the Iron Age cemeteries in East Yorkshire
(source: Stead 1991)

Body shape	1	conical
	2	shapeless
	3	shouldered
Rim shape	A	lipless
	B	bead
	C	pinched
	D	chamfered
	E	upright
	F	outturned (necked)
Base shape	1	trimmed, simple
	2	slightly splayed, the result of fabrication method
	3	splayed
	4	slight footring
	5	tall, conical applied pedestal

Table. 4.2 Examination of the 'Basic class' by Cunliffe in 1984

Basic class	measurements	profiles
Jars	H>MD>RD	Bi - or Tripartite
Bowls	H<MD<RD	Bi - or Tripartite
Dishes	H<MD=RD	
Saucepan pots	H=MD RD=BD	Vertical

* Heights=**H**, Maximum diameters=**MD**, Rim diameters=**RD**, Base diameters=**BD**

Table. 4.3 Examination of 'Types' (1) by Cunliffe in 1984

Types	profiles	measurements
JA	Bipartite	MD at the shoulder
JB	Tripartite	
JC	Bipartite	RD<MD at the shoulder
JD	Tripartite	
JE		

Table. 4.4 Examination of 'Types' (2) by Cunliffe in 1984

Types	bodies
JA	the upper slopes evenly inwards
JB	the angle may be rounded and sharp
JC	the body curves evenly through the shoulder to the rim
JD	the body and shoulder evenly curved
JE	* general category to include **wheel-turned** jars

Table. 4.5 Examination of 'Types' (3) by Cunliffe in 1984

Types	rims
JA	
JB	upstanding or flared outwards, decoration with finger moulding on rim tops
JC	rim tops are beaded
JD	the rim is curved sharply outwards
JE	* with necks or sharply moulded out-turned rims

Table. 4.6 Examination of ‘Forms’(1) by Cunliffe in 1984

Forms	sizes	profiles (or shapes)
JB1		high shouldered
JB2		shouldered
JB3	large	rounded
JB4	large	barrel-shaped without much emphasis on the shoulder

Table. 4.7 Examination of ‘Forms’(2) by Cunliffe in 1984

Forms	rims
JB1	slightly flaring
JB2	upstanding or slightly everted
JB3	upstanding or slightly everted necks
JB4	

Table. 4.8 Examination of ‘Forms’(3) by Cunliffe in 1984

Forms	rim tops
JB1	finger-tip or finger-nail decoration *shallow-tooled impressions
JB2	flattened *no decoration
JB3	squared and sometimes hollowed slightly on the inside
JB4	

Table. 4.9 Examination of ‘Forms’(4) by Cunliffe in 1984

Forms	surfaces
JB1	
JB2	
JB3	smoothed or burnished
JB4	wiped or roughly burnished *coarse and sandy

Table. 4.10 Examination of ‘Varieties’ by Cunliffe in 1984

Varieties	characteristics
JB2.0	the sherds difficult to classify
JB2.1	squatter and bulbous shape, height = or < MD
JB2.2	taller, height >MD, upright or flared rims
JB2.3	smaller, more thickly made vessels

Table. 4.11 The ‘style’ concept in typological classifications of pottery

< TIME >		form1	form2	form3	form4	form5	form6
A point of a big change	style1	typeA, typeB		typeC		typeD	
	style2	typeA	typeE	typeF typeG		typeD	
A point of a big change	style3	typeA	typeE	typeF type K	typeH	typeD	
	style4	typeQ	typeM	typeN typeK	typeO	typeL	typeW
	style5	typeQ		typeN typeK	typeS	typeL typeU	typeW

Table 5.1 Classification on ceramic restriction (source: Pope 2003)

Form	Definition
0	orifice > base; height < 1/3 max. diameter; minimal walls
1	orifice = max. diameter; height <? Width
2	orifice = max. diameter; height > width; 'flaring' walls
3	orifice = max. diameter; height > width; vertical walls
4	orifice < max. diameter; height > width
5	orifice ≦2/3 max. diameter; height > width

Table 5.2 Basic ceramic data of categories ① to ⑦

Ca	Neck D	N / M	Ori. No.	Ori. Cla.
①	9	41.9	1216	jd3
②	4.5	45	759	je4.2
③	2.6	52	1711	jc2
	2.7	52.9	1602	jc3.3
	3	51.7	618	je4.1
	3.4	51.5	1207	jd4.42
	5.8	49.2	1603	jd4.5
④	3.2	56.1	502	je1.1
	3.4	56.4	648	ba
	3.6	57.1	592	je1.1
	3.8	57.6	622	je1.1
	4.5	56.3	17	jd4.5
	4.5	57.7	2124	jd4.41
	4.6	57.5	2214	jd4.5
	4.7	56	856	jd4.12
	5	56.8	693	jd4.3
	5.3	57.6	1747	jd4.5
	5.5	56.7	773	jd4.6
	5.6	57.7	640	je1.1
	5.9	56.2	1254	jc2
	5.9	56.2	2027	jc3.1
	7	56	1729	jc3.1
⑤	1.3	59	1607	bc3.3
	4.1	59.4	1621	jc3.1
	4.2	60	1766	je1.1
	4.5	58.4	698	jd4.41
	4.5	59.2	1605	je4.1
	4.5	60.8	188	jd4.5
	4.6	58.2	81	jc3.1
	5	58.8	2079	jb2-4
	5.1	59.3	662	jc2
	5.4	60	2125	je4.2
	5.7	59.4	1983	jd4.42
	6.8	59.6	1212	jc4.2
	7.3	60.8	609	jc3.1
	8.3	60.1	333	jc4.2

Ca	Neck D	N / M	Ori. No.	Ori. Cla.
⑥	3.3	62.3	95	jc2
	3.3	63.5	311	jc3.1
	3.5	63.6	1709	jd4.41
	3.5	63.6	1715	jd4.42
	4	62.5	679	jd4.6
	4.3	63.2	1829	je1.1
	4.4	62.9	883	jd4.3
	4.5	61.6	2046	jc3.1
	4.6	62.2	551	je2.1
	5	64.1	721	jd4.12
	5.2	62.7	720	jd4.12
	5.2	63.4	604	jd4.5
	5.2	64.2	529	bd6
	5.3	62.4	2037	jd4.5
	5.4	62.8	2221	jd4.12
	5.7	61.3	790	jd4.3
	5.8	63.7	691	jd4.3
	5.8	64.4	867	jd4.3
	5.9	64.1	426	jd4.3
	6.7	63.8	2047	jd4.5
	7	63.6	401	jd4.11
	7.1	63.4	864	jd4.3
	8	61.5	1301	jc4.2
		62	692	jd4.3
		62.5	702	jc4.2
⑦	2.4	64.9	313	bd4.2
	4	65.6	1730	jc2
	4.9	66.2	1237	je4.2
	5	66.7	541	je1.1
	5.1	66.2	695	jd4.3
	5.4	65.9	1801	jc3.1
	5.6	66.7	1721	jd4.12
	5.8	66.7	398	jd4.5
	5.9	66.3	245	jc3.1
	6.1	66.3	1752	je4.1
	6.2	66.7	863	jd4.3

Ca : Category, **Neck D** : Neck diameter, **N / M** : Ratio of Neck diameter to Max diameter,
Ori. No. : Original number in the excavation report, **Ori. Cla.** : Original classification in the excavation report

Table 5.3 Basic ceramic data of categories ⑦ to ⑨

Ca	Neck D	N / M	Ori. No.	Ori. Cla.
⑦	7.1	66.4	2089	jd4.5
	7.7	67	1743	jc3.1
	8	66.7	586	jd4.11
	8.5	66.4	2103	jc3.1
⑧	3.3	68.8	1200	jc2
	3.3	68.8	1243	mis
	3.8	69.1	2204	jd4.12
	4.3	69.4	2115	je1.1
	4.4	67.7	1834	mis
	4.7	69.1	1733	jd4.11
	4.8	67.6	591	je1.1
	4.8	69.6	1767	je1.1
	5.3	68.8	1971	je1.2
	5.3	68.8	2056	jc3.1
	5.5	69.6	1611	jd4.41
	5.6	68.3	874	jd4.3
	5.7	67.9	865	jd4.3
	5.8	69	716	jd4.12
	5.8	69	1756	jd4.5
	5.9	67.8	1610	jc3.1
	6	68.2	2053	jc3.1
	6	69	550	je1.1
	6.9	68.3	1744	jc3.1
	7	68.6	512	je2.1
	7.1	67.6	774	jd4.3
	7.1	68.9	1746	jd4.5
	7.2	69.2	2088	jd4.5
	7.3	69.2	770	jd4.6
	7.9	68.7	2018	jd4.5
⑨	2.9	76.3	2058	mis
	3.2	72.7	1503	jb1
	3.3	76.7	1288	jc3.1
	3.4	73.9	1502	ba
	3.5	71.4	15	jd4.11
	3.6	73.5	1285	jc3.1
	3.7	72.5	433	jd4.12
	3.8	76	233	jd4.12
	3.9	72.2	2028	jc3.1
	3.9	73.6	1097	jc3.1
	3.9	76.5	1316	jb2-4
	3.9	76.5	1506	jb1
	4	75.5	2133	jc2
	4.1	74.5	534	bd6
	4.1	74.5	697	jc3.1
	4.2	76.4	1731	jc2
	4.3	75.4	1292	je3.1
	4.4	71	1842	je1.2
	4.4	73.3	1219	je4.2
	4.4	73.3	1802	jd4.41
	4.4	74.6	2211	jd4.42
	4.5	72.6	762	jd4.42
	4.5	72.6	2218	jc2
	4.5	73.8	1982	je4.1
	4.5	73.8	2101	jd4.5
	4.5	75	533	bd6
	4.5	75	1284	bd4.2
	4.5	76.3	1696	bd2.2

Ca	Neck D	N / M	Ori. No.	Ori. Cla.
⑨	4.6	76.7	1742	bc3.2
	4.7	70.1	2052	jc3.1
	4.7	72.3	1732	jd4.11
	4.8	71.6	624	je1.1
	4.8	75	1685	bd2.11
	4.8	75	1734	jd4.11
	4.8	76.2	1600	jd4.42
	4.9	75.4	538	je2.1
	4.9	75.4	2077	je2.1
	4.9	76.6	1996	je3.1
	5	71.4	1221	bd6
	5	71.4	2038	jc3.1
	5	76.9	1712	jd4.12
	5.1	72.9	885	jd4.3
	5.3	72.6	1704	jd4.42
	5.3	73.6	513	je2.1
	5.3	74.6	1764	je3.3
	5.3	76.8	1229	jd4.3
	5.4	72	683	jd4.12
	5.6	72.7	719	jd4.12
	5.7	70.4	1760	je3.2
	5.7	72.2	1707	jd4.3
	5.7	77	1843	bd2.2
	5.8	72.5	1979	je4.1
	5.8	76.3	1276	je3.1
	5.8	76.3	2002	je4.1
	6	70.6	870	jd4.3
	6	73.2	1234	jc3.1
	6	75.9	517	bd4.3
	6.1	76.3	1820	bd1.1
	6.2	72.9	1771	je3.2
	6.2	72.9	1901	bd3.11
	6.2	75.6	588	bd1.1
	6.3	74.1	2118	je3.2
	6.3	75.9	1759	je4.1
	6.4	74.4	886	jd4.3
	6.5	73.9	666	jc2
	6.5	73.9	1749	jd4.5
	6.7	73.6	1750	jd4.5
	6.8	73.9	97	jd4.11
	7	74	1708	jd4.3
	7.1	76.3	638	je1.1
	7.2	75	855	jc4.2
	7.3	73	1087	jd4.5
	7.6	76.8	305	je4.2
	7.8	72.2	2220	jd4.22
	7.8	74.3	1202	jb2-4
	7.8	75.7	742	je1.1
	7.9	74.5	1793	jc2
	7.9	76.7	544	jd4.5
	9	72	858	jc3.1
	10	76.9	1745	jd4.5
	10.1	74.8	1716	jc4.2
		73.2	2092	bc3.3
		73.9	1831	mis
		75	2067	jc4.1

Table 5.4 Ceramic classification based on size and characteristics of shape: categories ① to ⑥

Category	Size	Type	(Upper) Body	Neck to rim	Ceramic No.
①			curved	upstanding, but lean outwards	1216
②			high-shouldered and curved	curved, upstanding, and bend outwards	759
③	S	a	curved	upstanding, but lean outwards	1711
		b	loosely curved	tiny and upstanding	1602
		c	curved	curved and upstanding, and bend outwards	618
		d	curved	curved outwards	1207
	L		high-shouldered and curved	upstanding, but curved outwards	1603
④	S	a	straight	tiny and upstanding, but lean inwards	648
		b	loosely curved	upstanding, and bend outwards	622
		c	curved	upstanding, and bend outwards	502, 592
	M	a	Curved	upstanding, but curve outwards	856, 2214, 773, 2124
		b	curved	curved and upstanding, and bend outwards	693
		c	loosely curved	curved outwards	640
		d	curved	curved outwards	1254, 17
		e	high-shouldered and curved	high-shouldered and curved	1747, 2027
	L		high-shouldered and curved	tiny and upstanding	1729
⑤	S		curved	tiny and curved outwards	1607
	M	a	curved	upstanding	1621
		b	curved	tiny and upstanding, but leans outwards	81
		c	curved	upstanding, but curved outwards	1766,188,662,698,1983,2125
		d	loosely curved	curved and upstanding, and bend outwards	1605
		e	curved	upstanding, but leans outwards	2079
	L	a	curved	tiny, thick and upstanding, but lean inwards	1212
		b	high-shouldered and curved	tiny and upstanding	609
	XL		curved	tiny, thick, and upstanding, but leans inwards	333
⑥	S	a	loosely curved	tiny and upstanding	95, 311
		b	curved	upstanding, but curved outwards	1709
		c	straight	upstanding, but lean outwards, and also curved inwards	1715
	SM	a	loosely curved	curved outwards	883, 1829
		b	curved	upstanding, and bend outwards	679
		c	curved	upstanding, but lean outwards	2046
		d	straight	upstanding, but lean outwards	551
	M	a	curved	upstanding, but curved outwards	529, 720, 2221, 691
		b	curved	upstanding	2037
		c	loosely curved	curved outwards	604
		d	curved	curved outwards	790, 867, 721
		e	straight and loosely curved	upstanding, but lean outwards	426
	L	a	curved	curved outwards	864
		b	curved	upstanding, but lean outwards	401
		c	high-shouldered and curved	tiny and upstanding	2047
	XL		curved	tiny, thick and upstanding, but lean inwards	1301

* Size

S: small, M: middle, L: large, XL: X-large

Table 5.5 Ceramic classification based on size and characteristics of shape: categories ⑦ to ⑨

Category	Size	Type	(Upper) Body	Neck to rim	Ceramic No.
⑦	S	a	high-shouldered and curved	curved outwards	313
		b	straight	tiny and upstanding	1730
	M	a	curved	upstanding, but curved outwards	1721, 541, 1752
		b	loosely curved	upstanding, but lean outwards	695, 863
		c	loosely curved	curved, upstanding, and bend outwards	1237
		d	curved	tiny and upstanding	1801
		e	curved	upstanding, but lean outwards	398, 245
	L	a	high-shouldered and curved	curved outwards	2089
		b	curved	curved outwards	586
		c	loosely curved	tiny and upstanding, but lean outwards	1743
		d	curved	tiny and upstanding, but lean outwards	2103
⑧	S	a	straight	tiny and upstanding, but lean inwards	1200
		b	straight	upstanding	1243
		c	loosely curved	upstanding, but lean outwards, and bend outwards	2204
	SM	a	straight	tiny and upstanding, but lean outwards	1834
		b	loosely curved	curved, upstanding, and bend outwards	2115
		c	curved	upstanding, and bend outwards	591
		d	curved	curved outwards	1767
		e	loosely curved	upstanding, but curved outwards	1733
	M	a	curved	curved, upstanding inwards, and bend outwards	1756
		b	curved	upstanding, and curved outwards	716
		c	loosely curved	curved outwards	550, 1611, 874
		d	straight	curved outwards	1971
		e	high-shouldered and curved	upstanding	2056
		f	curved	tiny and upstanding	2053
		g	loosely curved	upstanding, but curved outwards	865
		h	loosely curved	tiny and upstanding	1610
	L	a	curved	curved outwards	1746, 2088, 770
		b	curved	upstanding, but lean outwards	512, 774
		c	loosely curved	upstanding, but lean outwards	1744
		d	high-shouldered and curved	upstanding, but curved outwards	2018
⑨	SM	a	curved	curved outwards	1284, 762, 1221, 719, 513
		b	loosely curved	upstanding, but is curved outwards	1982
		c	loosely curved	curved outwards	1712,433,233,1842,1802,2211,538,885,1707,1843,1760,1901,1771,2118,886, 1708, 1793, 2220
		d	curved	curved, upstanding, and bend outwards	533, 534
		e	curved	tiny and curved outwards	2028
		f	loosely curved	tiny and curved outwards	1907
		g	curved	tiny and upstanding, but lean outwards	2052
		h	curved	curved outwards	1292, 1219, 1734, 624, 683, 2002,1979,517,1759,97,305
		i	curved	upstanding, but lean outwards	1732,1600,1229,1704,870
		j	high-shouldered and curved	upstanding, and curved outwards	1749, 1750, 638, 1087, 544
		k	loosely curved	curved, upstanding, and bend outwards	1696, 2077, 1820, 588, 742
		l	high-shouldered and loosely curved	curved outwards	1685, 1996, 1276
		m	loosely curved	tiny and upstanding	1288,1285,2101,1742,1764, 2117,2038,697, 2133, 1731, 855
		n	loosely curved	tiny and upstanding, but lean outwards	2218
		o	straight	straight	1503, 1502, 1316, 1506
		p	loosely curved	curved, upstanding, and curved outwards	666
		q	loosely curved	curved and upstanding	1202
		r	high-shouldered and curved	upstanding	1234
	L	a	high-shouldered	upstanding, but lean outwards	858, 1745
		b	curved	tiny, thick and upstanding, but lean inwards	1716

Table 5.6 Classification of categories ① to ⑨ based on morphological characteristics: neck to rim shape and upper body shape

		Neck to Rim: Upstanding									
		tiny	tiny Leaned (in)	tiny & thick Leaned (in)	tiny Leaned (out)	Upstanding	Leaned (out)	Leaned (out) Curved (in)	Bent (out)	Leaned (out) Bent (out)	Curved (out)
Upper body	High-shouldered	④L, ⑤Lb ⑥Lc				④Me ⑧Me ⑨SMp	⑨La				③L, ⑧Ld, ⑨SMi
	Curved	⑤S ⑦Md, ⑦Ld ⑧Mf ⑨Sme		⑤La, ⑤XL ⑥XL, ⑨Lb	③Sa, ⑤Mb ⑨SMf	⑤Ma ⑥Mb	①, ⑤Me, ⑥SMc ⑥Lb, ⑦Me, ⑧Lb ⑨SMh		④Sc ⑥SMb ⑧SMc		④Ma, ⑤Mc ⑥Sb, ⑥Ma ⑦Ma, ⑧Mb ⑨SMa
	Loosely Curved	③Sb, ⑥Sa ⑧Mh ⑨SMk			⑦Lc ⑨SMm		⑦Mb ⑧Lc		④Sb	⑧Sc	⑥SMa ⑧SMe, ⑧Mg ⑨SMb
	Straight	⑦Sb	④Sa, ⑧Sa		⑧SMa	⑧Sb	⑥SMd, ⑥Me	⑥Sc			

		Neck to Rim: Curved			
		Upstanding	Upstanding Bent (out)	Upstanding (in) Bent (out)	Curved (out)
Upper body	High-shouldered		②		⑦Sa, ⑦La ⑨SMl
	Curved		③Sc ④Mb ⑨SMd	⑧Ma	③Sd, ④Md ⑥Md, ⑥La ⑦Lb, ⑧SMd ⑧La, ⑨SMg
	Loosely Curved	⑨SMo	⑤Md, ⑦Mc ⑧SMb, ⑨SMj		④Mc ⑥Mc, ⑧Mc ⑨SMc
	Straight	⑨SMn			⑧Md

＊ S: Small, SM: Small-Middle, M: Middle, L: Large, XL: X-Large

Table 5.7 (left) The ratio of neck diameters to max. diameters in the 'High-shouldered' types

Table 5.8 (right) The neck diameters in the 'High-shouldered' types

N / M	Ori. No.	Classification
49.2	1603	U/curved
56	1729	U/tiny
56.2	2027	U/upstanding
57.6	1747	U/upstanding
60.8	609	U/tiny
63.8	2047	U/tiny
64.9	313	C/curved
66.4	2089	C/curved
68.7	2018	U/curved
68.8	2056	U/upstanding
72	858	U/upstanding (l)
73	1087	U/curved
73.2	1234	U/upstanding
73.6	1750	U/curved
73.9	1749	U/curved
75	1685	C/curved
76.3	1276	C/curved
76.3	638	U/curved
76.6	1996	C/curved
76.7	544	U/curved
76.9	1745	U/upstanding (l)

Neck D	Ori. No.	Classification
2.4	313	C/curved
4.8	1685	C/curved
4.9	1996	C/curved
5.3	1747	U/upstanding
5.3	2056	U/upstanding
5.8	1603	U/curved
5.8	1276	C/curved
5.9	2027	U/upstanding
6	1234	U/upstanding
6.5	1749	U/curved
6.7	2047	U/tiny
6.7	1750	U/curved
7	1729	U/tiny
7.1	2089	C/curved
7.1	638	U/curved
7.3	609	U/tiny
7.3	1087	U/curved
7.9	2018	U/curved
7.9	544	U/curved
9	858	U/upstanding (l)
10	1745	U/upstanding (l)

* Classification: ' **MAIN** / **MINOR** classifications of neck to rim shapes' , (l): leaned * Neck diameters; 1/3 cms

Table 5.9 (left) The ratio of neck diameters to max. diameters in the 'Straight' types

Table 5.10 (right) The neck diameters in the 'Straight' types

N / M	Ori. No.	Classification
56.4	648	U/tiny
62.2	551	U/upstanding (l)
63.6	1715	U/upstanding (l)
64.1	426	U/upstanding (l)
65.6	1730	U/tiny
67.7	1834	U/tiny
68.8	1243	U/upstanding
68.8	1971	C/curved
68.8	1200	U/tiny
72.7	1503	C/upstanding
73.9	1502	C/upstanding
76.5	1316	C/upstanding
76.5	1506	C/upstanding

Neck D	Ori. No.	Classification
3.2	648	U/tiny
3.3	1503	C/upstanding
3.3	1200	U/tiny
3.4	1243	U/upstanding
3.4	1502	C/upstanding
3.5	1715	U/upstanding (l)
3.9	1316	C/upstanding
3.9	1506	C/upstanding
4	1730	U/tiny
4.4	1834	U/tiny
4.6	551	U/upstanding (l)
5.3	1971	C/curved
5.9	426	U/upstanding (l)

Table 5.11 The ratio of neck diameters to max. diameters in the 'Curved' types

N / M	Ori. No.	Classification
41.9	1216	U/upstanding (l)
51.5	1207	C/curved
51.7	618	C/up & bent
52	1711	U/tiny
56	856	U/curved
56.1	502	U/bent
56.2	1254	C/curved
56.3	17	C/curved
56.7	773	U/curved
56.8	693	C/up & bent
57.1	592	U/bent
57.5	2214	U/curved
57.7	2124	U/curved
58.2	81	U/tiny
58.4	698	U/curved
58.8	2079	U/upstanding (l)
59	1607	U/tiny
59.3	662	U/curved
59.4	1983	C/curved
59.4	1621	U/upstanding
59.6	1212	U/tiny
60	1766	U/curved
60	2125	C/curved
60.1	333	U/tiny
60.8	188	U/curved
61.3	790	C/curved
61.5	1301	U/tiny
61.6	2046	U/upstanding (l)
62.4	2037	U/tiny
62.5	679	U/bent
62.7	720	U/curved
62.8	2221	U/curved
63.4	864	C/curved
63.6	1709	U/curved
63.6	401	U/upstanding (l)
63.7	691	U/curved
64.1	721	C/curved
64.2	529	C/curved
64.4	867	C/curved
65.9	1801	U/tiny
66.3	1752	U/curved
66.3	245	U/upstanding (l)

N / M	Ori. No.	Classification
66.4	2103	U/tiny
66.7	1721	C/curved
66.7	541	C/curved
66.7	398	U/upstanding (l)
66.7	586	C/curved
67.6	774	U/upstanding (l)
67.6	591	U/bent
68.2	2053	U/tiny
68.6	512	U/upstanding (l)
68.9	1746	C/curved
69	716	C/curved
69	1756	C/up & bent
69.2	2088	C/curved
69.2	770	C/curved
69.6	1767	C/curved
70.1	2052	U/tiny
70.6	870	U/upstanding (l)
71.4	1221	C/curved
71.6	624	C/curved
72	683	C/curved
72.2	2028	U/tiny
72.3	1732	U/upstanding (l)
72.5	1979	C/curved
72.6	762	C/curved
72.6	1704	U/upstanding (l)
72.7	719	U/curved
73.3	1219	C/curved
73.6	513	U/curved
73.9	97	C/curved
74.5	534	C/up & bent
74.8	1716	U/tiny
75	533	C/up & bent
75	1284	C/curved
75	1734	C/curved
75.4	1292	C/curved
75.9	1759	C/curved
75.9	517	C/curved
76.2	1600	U/upstanding (l)
76.3	2002	C/curved
76.8	1229	U/upstanding (l)
76.8	305	C/curved

Table 5.12 The neck diameters in the 'Curved' types

Neck D	Ori. No.	Classification
1.3	1607	U/tiny
2.6	1711	U/tiny
3	618	C/up & bent
3.2	502	U/bent
3.4	1207	C/curved
3.5	1709	U/curved
3.6	592	U/bent
3.9	2028	U/tiny
4	679	U/bent
4.1	1621	U/upstanding
4.1	534	C/up & bent
4.2	1766	U/curved
4.3	1292	C/curved
4.4	1219	C/curved
4.5	2124	U/curved
4.5	17	C/curved
4.5	698	U/curved
4.5	188	U/curved
4.5	2046	U/upstanding (l)
4.5	533	C/up & bent
4.5	762	C/curved
4.5	1284	C/curved
4.6	2214	U/curved
4.6	81	U/tiny
4.7	856	U/curved
4.7	2052	U/tiny
4.7	1732	U/upstanding (l)
4.8	591	U/bent
4.8	1767	C/curved
4.8	1600	U/upstanding (l)
4.8	624	C/curved
4.8	1734	C/curved
5	693	C/up & bent
5	2079	C/curved
5	721	C/curved
5	541	C/curved
5	1221	C/curved
5.1	662	U/curved
5.2	529	C/curved
5.2	720	U/curved
5.3	2037	U/tiny
5.3	513	U/curved

Neck D	Ori. No.	Classification
5.3	1229	U/upstanding (l)
5.3	1704	U/upstanding (l)
5.4	2125	C/curved
5.4	2221	U/curved
5.4	1801	U/tiny
5.4	683	C/curved
5.5	773	U/curved
5.6	1721	C/curved
5.6	719	U/curved
5.7	1983	C/curved
5.7	790	C/curved
5.8	691	U/curved
5.8	867	C/curved
5.8	398	U/upstanding (l)
5.8	716	C/curved
5.8	1756	C/up & bent
5.8	2002	C/curved
5.8	1979	C/curved
5.9	1254	C/curved
5.9	245	U/upstanding (l)
6	2053	U/tiny
6	870	U/upstanding (l)
6	517	C/curved
6.1	1752	U/curved
6.3	1759	C/curved
6.8	1212	U/tiny
6.8	97	C/curved
7	401	U/upstanding (l)
7	512	U/upstanding (l)
7.1	864	C/curved
7.1	774	U/upstanding (l)
7.1	1746	C/curved
7.2	2088	C/curved
7.3	770	C/curved
7.6	305	C/curved
8	1301	U/tiny
8	586	C/curved
8.3	333	U/tiny
8.5	2103	U/tiny
9	1216	U/upstanding (l)
10.1	1716	U/tiny

Table 5.13 The ratio of neck diameters to max. diameters in the 'Loosely Curved' types

N / M	Ori. No.	Classification	N / M	Ori. No.	Classification
52.9	1602	U/tiny	72.9	1901	C/curved
57.6	622	U/bent	72.9	1771	C/curved
57.7	640	C/curved	73.3	1802	C/curved
59.2	1605	C/upstanding	73.5	1285	U/tiny
62.3	95	U/tiny	73.6	1097	U/tiny
62.9	883	C/curved	73.8	1982	U/curved
63.2	1829	C/curved	73.8	2101	U/tiny
63.4	604	C/curved	73.9	666	C/upstanding
63.5	311	U/tiny	74	1708	C/curved
66.2	695	U/upstanding (l)	74.1	2118	C/curved
66.2	1237	C/upstanding	74.3	1202	C/upstanding
66.7	863	U/upstanding (l)	74.4	886	C/curved
67	1743	U/tiny	74.5	697	U/tiny
67.8	1610	U/tiny	74.5	1793	C/curved
67.9	865	U/curved	74.6	1764	U/tiny
68.3	874	C/curved	74.6	2211	C/curved
68.3	1744	U/upstanding (l)	75	855	U/tiny
69	550	C/curved	75.4	538	C/curved
69.1	2204	U/bent	75.4	2077	C/upstanding
69.1	1733	U/curved	75.5	2133	U/tiny
69.4	2115	C/upstanding	75.6	588	C/upstanding
69.6	1611	C/curved	75.7	742	C/upstanding
70.4	1760	C/curved	76	233	C/curved
71	1842	C/curved	76.3	1696	C/upstanding
71.4	2038	U/tiny	76.3	1820	C/upstanding
72.2	1707	C/curved	76.4	1731	U/tiny
72.2	2220	C/curved	76.7	1742	U/tiny
72.5	433	C/curved	76.7	1288	U/tiny
72.6	2218	U/tiny	76.9	1712	C/curved
72.9	885	C/curved	77	1843	C/curved

Table 5.14 The neck diameters in the 'Loosely Curved' types

Neck D	Ori. No.	Classification	Neck D	Ori. No.	Classification
2.7	1602	U/tiny	5	2038	U/tiny
3.3	95	U/tiny	5.1	695	U/upstanding (l)
3.3	311	U/tiny	5.1	885	C/curved
3.3	1288	U/tiny	5.2	604	C/curved
3.6	1285	U/tiny	5.3	1764	U/tiny
3.7	433	C/curved	5.5	1611	C/curved
3.8	233	C/curved	5.6	640	C/curved
3.8	622	U/bent	5.6	874	C/curved
3.8	2204	U/bent	5.7	865	U/curved
3.9	1097	U/tiny	5.7	1707	C/curved
4	2133	U/tiny	5.7	1760	C/curved
4.1	697	U/tiny	5.7	1843	C/curved
4.2	1731	U/tiny	5.9	1610	U/tiny
4.3	1829	C/curved	6	550	C/curved
4.3	2115	C/upstanding	6.1	1820	C/upstanding
4.4	883	C/curved	6.2	588	C/upstanding
4.4	1802	C/curved	6.2	863	U/upstanding (l)
4.4	1842	C/curved	6.2	1771	C/curved
4.4	2211	C/curved	6.2	1901	C/curved
4.5	1605	C/upstanding	6.3	2118	C/curved
4.5	1696	C/upstanding	6.4	886	C/curved
4.5	1982	U/curved	6.5	666	C/upstanding
4.5	2101	U/tiny	6.9	1744	U/upstanding (l)
4.5	2218	U/tiny	7	1708	C/curved
4.6	1742	U/tiny	7.2	855	U/tiny
4.7	1733	U/curved	7.7	1743	U/tiny
4.9	538	C/curved	7.8	742	C/upstanding
4.9	1237	C/upstanding	7.8	1202	C/upstanding
4.9	2077	C/upstanding	7.8	2220	C/curved
5	1712	C/curved	7.9	1793	C/curved

Table 5.15 Classification of 'High-shouldered' types in categories ① to ⑨ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	curved rim, smaller-sized neck, and swollen body (no. 1603)
	2	curved rim, larger-sized neck
	3	tiny rim, larger-sized neck, and swollen body
	4	upstanding rim, smaller-sized neck, and relatively swollen body (no. 1747, 2027)
	5	upstanding rim, smaller-sized neck
	6	lean rim, and large-sized neck
Curved	1	curved rim, tiny-sized neck, and relatively swollen body (no.313)
	2	curved rim, larger-sized neck, and relatively swollen body (no. 2089)
	3	curved rim, smaller-sized neck

Table 5.16 Classification of 'Straight' types in categories ① to ⑨ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	tiny and lean inwards rim (no. 648, 1200)
	2	tiny rim (no. 1730)
	3	tiny and lean outwards rim (no. 1834)
	4	upstanding rim (no. 1243)
	5	lean outwards rim, and large-sized neck (no. 426)
	6	lean outwards rim (no. 551)
	7	lean outwards and curved inwards rim (no. 1715)
Curved	1	upstanding rim, and swollen body
	2	curved rim, and large-sized neck (no. 1971)

Table 5.17 Classification of 'Curved' types in categories ① to ⑨ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	tiny and lean outwards rim, and tiny-sized neck (no. 1607)
	2	tiny and lean outwards rim, and small-sized neck (no. 1711)
	3	tiny rim, and middle-sized neck
	4	tiny and lean outwards rim, and middle-sized neck (no. 81, 2052)
	5	tiny, thick and lean inwards rim, and large-sized neck (no. 1212, 333, 1301)
	6	tiny and lean outwards rim, and large-sized neck (no. 2103)
	7	tiny, thick and lean inwards rim, and X-large-sized neck (no. 1716)
	8	upstanding rim, and middle-sized neck (no. 1621)
	9	curved outwards rim, and small-sized neck (no. 1709)
	10	curved outwards rim, and middle-sized neck
	11	lean outwards rim, and middle-sized neck
	12	lean outwards rim, and large-sized neck (no. 401, 512, 774)
	13	lean outwards rim, X-large-sized neck, and swollen body (no. 1216)
	14	bend outwards rim, small-sized neck, and swollen body (no. 502, 592)
	15	bend outwards rim, and middle-sized neck (no. 679, 591)
Curved	1	upstanding and bend outwards rim, small-sized neck, and swollen body (no. 618)
	2	upstanding and bend outwards rim, middle-sized neck, and relatively swollen body (no. 693)
	3	upstanding and bend outwards rim, middle-sized neck (no. 1756)
	4	upstanding and bend outwards rim, smaller middle-sized neck, and relatively non-swollen body (no. 533, 534) * short shoulder
	5	curved outwards rim, and small-sized neck (no. 1207)
	6	curved outwards rim, and middle-sized neck (no. 1254 * thick and short rim)
	7	curved outwards rim, and large-sized neck

Table 5.18 Classification of ‘Loosely curved’ types in categories ① to ⑨ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	tiny rim, and tiny-sized neck (no. 1602)
	2	tiny rim, small-sized neck, and swollen body (no. 95, 311)
	3	tiny rim, small-sized neck, and non-swollen body (no. 1288)
	4	tiny rim, and middle-sized neck
	5	tiny and lean outwards rim, and middle-sized neck (no.1097, 2218)
	6	tiny rim, and large-sized neck (no. 855)
	7	tiny rim and lean outwards, and X-large-sized neck (no. 1743)
	8	curved outwards rim, and middle-sized neck (no. 1982 * short shoulder)
	9	bend outwards rim, (smaller)middle-sized neck, and swollen body (no. 622)
	10	lean outwards and bent outwards rim, and middle-sized neck (no. 2204)
	11	lean outwards rim, middle-sized neck, and relatively swollen body (no. 695, 863)
	12	lean outwards rim, and large-sized neck (no. 1744)
Curved	1	upstanding rim, and X-large-sized neck (no. 1202)
	2	upstanding and bend outwards rim, and middle-sized neck
	3	upstanding and bend outwards rim, middle-sized neck, and swollen body (no. 1605)
	4	upstanding and bend outwards rim, and X-large-sized neck (no. 742)
	5	curved outwards rim, and middle-sized neck
	6	curved outwards rim, middle-sized neck, and relatively strong swollen body (no. 640)
	7	curved outwards rim, middle-sized neck, and relatively weak swollen body (no. 1829, 883)
	8	curved outwards rim, and middle-sized neck, and relatively weak swollen body (no. 604 * thick rim)
	9	curved outwards rim, and large-sized neck (no. 1708)
	10	curved outwards rim, and X-large-sized neck (no. 1793, 2220)

Table 5.19 Stratigraphic phases in Hangistbury Head

Phase	Period
K	The later Roman period (Ro 3 : fourth century) * occupation
J	The later Roman period (Ro 3 : fourth century) * upper gravel
I	The later Roman period (Ro 2 : fourth century) * ditch system
H	Roman Occupation (Ro 1: first to third centuries AD) * middle gravel
G	Roman Occupation (Ro 1: first to third centuries AD)
F	Roman Occupation (Ro 1: first to third centuries AD) * lower gravel
E	Roman Occupation (Ro 1: first to third centuries AD) * lowest gravel
D	**Late Iron Age Occupation of the Durotrigan period (LIA2)**
C	**Late Iron Age Occupation of the ‘Contact period’ (LIA1)**
B	**estuarine sand (-)**
A	**The Early and Middle Iron Age Settlement (EIA/MIA)**

Table 5.20 The stratigraphical information on Iron Age vessels from Hengistbury Head

Phase	Ceramic No.	context and layer
K	401	10
K	398	10
K	1202	179
K	1231	179
K	1273	179
J	1247	F128 (196)
J	1299	F538 (869)
I	301	14
I	1236	184
I	1238	185
I	100	191
I	330	191
I	1232	191
I	1241	191
I	1242	191
I	1249	191
I	1251	191
I	1219	346
I	1239	346
I	1224	349
I	1274	688
I	1279	638
I	1283	638
I	1295	638
H	1278	582
H	1281	567
H	1291	567
H	1280	616
H	1298	616
G	1211	360
G	1265	568
G	1275	573
G	1270	689
G	1277	689
G	1285	689
F	354	F50 (44)
F	1248	195
F	1216	F226 (355)
F	1226	F226 (355)
F	1245	F226 (350)
F	1233	228
F	428	366
F	429	366
F	430	366
F	1292	566
E - F	349	F49 (44)
E	259	70
E	1228	258
E	449	354
E	1288	F419 (641)
E	1287	F389 (613)
E	1266	570
E	1268	570
E	1282	570
E	1294	570
E	1276	617
E	762	697
E	1269	697
E	1284	697

Phase	Ceramic No.	context and layer
D	2	81
D	10	204
D	256	42
D	327	F46 (44)
D	333	F47 (44)
D	1243	F237 (380)
D	1246	F237 (386)
D	1229	257
D	427	265
D	1244	279
D	436	361
D	437	361
D	438	361
D	431	367
D	1293	F393 (588)
C	25	41
C	157	F42 (44)
C	1323	F42 (44)
C	380	F42 (45)
C	388	F42 (46)
C	1317	F42 (46)
C	1318	F42 (46)
C	379	F42 (50)
C	1322	F42 (50)
C	433	F42 (272)
C	417	F235 (358)
C	1221	F235 (362)
C	1222	330
C	1205	362
C	1213	362
C	1311	F573 (851)
C	1272	643
C	1286	643
C	1324	660
A	1260	F266 (468)
A	1258	F275 (421)
A	1254	F290 (446)
A	1256	F290 (446)
A	1257	F290 (446)
A	1261	F290 (446)
A	1264	F433 (715)
A	1262	F559 (847)
A	1267	1489
A	1296	1414
A	1297	1459

* F: Feature No.

Table 5.21 The relation between the ceramic types in categories ① to ⑨ and stratigraphic phases (1)

Class	Ceramic No.	Phase
HS (Cu-3)	1276	E
St (Up-4)	1243	D
Cu (Up-11)	398	K
Cu (Up-12)	401	K
Cu (Cu-6)	1219	I
Cu (Up-13)	1216	F
Cu (Cu-6)	1292	F
Cu (Cu-6)	762	E
Cu (Cu-6)	1284	E
Cu (Up-5)	333	D
Cu (Up-11)	1229	D
Cu (Cu-6)	1221	C
Cu (Cu-6)	1254	A
LC (Cu-1)	1202	K
LC (Up-4)	1285	G
LC (Up-3)	1288	E
LC (Cu-5)	433	C

Phase	Ceramic No.	Class
K	398	Cu (Up-11)
K	401	Cu (Up-12)
K	1202	LC (Cu-1)
I	1219	Cu (Cu-6)
G	1285	LC (Up-4)
F	1216	Cu (Up-13)
F	1292	Cu (Cu-6)
E	1276	HS (Cu-3)
E	762	Cu (Cu-6)
E	1284	Cu (Cu-6)
E	1288	LC (Up-3)
D	1243	St (Up-4)
D	333	Cu (Up-5)
D	1229	Cu (Up-11)
C	1221	Cu (Cu-6)
C	433	LC (Cu-5)
A	1254	Cu (Cu-6)

The excavation of Site 1 in 1971

Class	Ceramic No.	layer
Cu (Up-10)	2214	10
Cu (Up-10)	2221	13 & 16
LC (Cu-5)	2211	2
LC (Up-5)	2218	13
LC (Cu-10)	2220	13

layer	Ceramic No.	Class
2	2211	LC (Cu-5)
13	2218	LC (Up-5)
13	2220	LC (Cu-10)
13 & 16	2221	Cu (Up-10)
10	2214	Cu (Up-10)

Table 5.22 The relation between the ceramic types in categories ① to ⑨ and stratigraphic phases (2)

Ceramic Type	Ceramic No. (type)	Phase	N/M (%)	Neck D (1/3cm)	Original Classification
Cu (Cu-6)	1219	I	73.3	4.4	JE4.2 (L1-L2?)
	1292	F	75.4	4.3	JE3.1 (L1)
	1284	E	75	4.5	BD4.2 (L1-L2)
	762	E	72.6	5	JD4.42 (L2)
	1221	C	71.4	4.5	BD6.0 (Iron Age)
	1254	A	56.2	5.9	JC2.0 (M)
Cu (Up-11)	398	K	66.7	5.8	JD4.5 (L2)
	1229	D	76.8	5.3	JD4.3 (L1)
Cu (Up)	401 (Up-12)	K	63.6	7	JD4.11 (M-L1)
	1216 (Up-13)	F	41.9	9	JD3.0 (M-L1)
	333 (Up-5)	D	60.1	8.3	JC4.2 (L2)
LC	1202 (Cu-1)	K	74.3	7.8	JB2.0-4.0 (E)
	1285 (Up-4)	G	73.5	3.6	JC3.1 (L2)
	1288 (Up-3)	E	76.6	3.3	JC3.2 (L2)
	433 (Cu-5)	C	72.5	3.7	JD4.12 (M-L1)
Others	1276, HS (Cu-3)	E	76.3	5.8	JE3.1 (L1)
	1243, St (Up-4)	D	68.8	3.3	Miscellaneous (Iron Age)

Table 5.23 The information on well-stratified ceramic groups from Hengistbury Head (1)

	N/M	ceramic No.	Neck D.	Max D.
KG1(E)	90.8	1309	5.9	6.5
	91.8	1300	5.6	6.1
	92.3	1302	9.6	10.4
	92.9	1326	6.5	7
	93.4	1310	5.7	6.1
KG2(E)	60.9	1304	4.2	6.9
KG3(M)	94.5	2222	5.2	5.5
	95.2	2228	4	4.2
	95.9	2231	4.7	4.9
KG4(M/L1) a (mid2)	56.5	3057	3.5	6.2
	88.7	3058	8.6	9.7
	90.7	3076	3.9	4.3
	92.9	3059	9.1	9.8
	96.4	3074	5.4	5.6
b (mid1)	81.9	3052	5.9	7.2
	85.7	3021	4.2	4.9
	88.5	3020	4.6	5.2
	95.5	3022	6.3	6.6

	N/M	ceramic No.	Neck D.	Max D.
c (old)	56.2	3014	4.5	8
	72.5	3013	8.7	12
	81.3	3051	3.9	4.8
	84.2	3004	6.4	7.6
	84.3	3000	8.1	9.6
	85	3034	6.8	8
	86.6	3048	9.7	11.2
	89.2	3045	5.8	6.5
	92.1	3035	7	7.6
	93.3	3047	4.2	4.5
d (new)	62	3012	4.4	7.1
	73.4	3029	6.9	9.4
	76.3	3031	4.5	5.9
	79.6	3042	9	11.3
	79.7	3030	4.7	5.9
	87.8	3028	4.3	4.9
	88.1	3011	7.4	8.4
	88.2	3055	4.5	5.1
	89.7	3009	5.2	5.8
	90.8	3054	5.9	6.5
	91.2	3041	5.2	5.7
	97.5	3026	7.7	7.9

* Shaded; categories ① to ⑨

Table 5.24 The information on well-stratified ceramic groups from Hengistbury Head (2)

Key Group	N/M	ceramic No.	Neck D.	Max D.
KG5(M/L1)	80.7	3071	4.6	5.7
	82.1	3067	3.2	3.9
	87	3064	4.7	5.4
		3062		5.2
KG6(L1)	54.2	363	3.2	5.9
	63.8	440	4.4	6.9
	69.4	384	3.4	4.9
	72.1	411	6.2	8.6
	76.3	408	5.8	7.6
	81.3	420	7.4	9.1
	82.5	364	3.3	4
	84.7	373	9.4	11.1
	85.3	422	6.4	7.5
	87.7	372	5	5.7
	90.3	361	5.6	6.2
	90.5	198	5.7	6.3
	90.7	368	6.8	7.5
	90.9	357	8	8.8
	91.4	367	6.4	7
	92.5	407	4.9	5.3
	92.8	359	7.7	8.3
	93.6	358	7.3	7.8
	93.9	369	7.7	8.2
	96.1	360	4.9	5.1
KG7(L2)	68.4	100	6.7	9.8
	84.5	47	6	7.1
	86.6	61	8.4	9.7
	87.1	62	5.4	6.2
	91.2	57	5.2	5.7
KG8(L2)	54.8	79	4.6	8.4
	63.6	82	5.6	8.8
	67.6	78	4.6	6.8
	75.7	74	5.3	7
	78.8	77	5.3	6.6
	81	76	4.7	5.8
		75		8.5

Key Group	N/M	ceramic No.	Neck D.	Max D.
KG9(L2)	76.5	88	7.5	9.8
	79	89	6.4	8.1
	80	84	5.2	6.5
	88.3	104	5.3	6
KG10(L2)	59.6	413	3.4	5.7
	79.6	219	3.9	4.9
KG11(L2)	57.1	1215	3.6	6.3
	82.9	1218	6.3	7.6
	85.4	1341	3.5	4.1
KG12(L2)	80.3	1342	4.9	6.1
	91.8	1263	4.5	4.9
KG13(L2)	64.4	1303	5.8	9
	72.1	1329	4.4	6.1
	72.8	1330	9.1	12.5
	73	1308	4.6	6.3
	73.8	1336	5.9	8
	77.1	1306	5.4	7
	80.7	1307	4.6	5.7
	81	1315	5.1	6.3
	86.8	1331	4.6	5.3
	97.5	1335	3.9	4
		1314		7.5
KG14(L2)	53.6	125	4.5	8.4
	66.7	123	7.6	11.4
	78.6	110	7.7	9.8
	82.8	112	4.8	5.8
	83.3	137	6.5	7.8
	87	133	8	9.2
	87	136	4	4.6
	88.1	116	5.2	5.9
	89.3	113	5	5.6
	92.9	121	3.9	4.2
	93.6	115	4.4	4.7
	96.4	122	5.3	5.5

* Shaded; categories ① to ⑨

Table 5.25 Typological classification of well-stratified ceramic groups from Hengistbury Head: categories ① to ⑨

Key Group	Period	Category/Size	(Upper) Body	Neck to rim	Ceramic No.
2	EIA	⑤M	loosely curved	upstanding, but lean outwards	1304
4	M/LIA1	⑥SM	curved	curved and upstanding, and bend outwards	3012 (new)
		⑨SM	loosely curved	upstanding, but lean outwards	3031 (new)
		④S	loosely curved	curved outwards	3057 (mid)
		④M	loosely curved	curved outwards	3014 (old)
		⑨SM	straight	tiny, thick and upstanding inwards	3013 (old)
6	LIA1	⑨-④	loosely curved	tiny, (and upstanding)	363
		⑧S	loosely curved	tiny and upstanding, but lean outwards	384
		⑥SM	loosely curved	curved and upstanding, but lean outwards	440
		⑨SM	loosely curved	upstanding, but lean outwards	411
		⑨SM	loosely curved	tiny and upstanding, but lean outwards	408
7	LIA2	⑧L	loosely curved	upstanding, but lean outwards	100
8	LIA2	③-④	curved	curved and upstanding, but lean outwards	79
		⑥M	curved	curved and upstanding	82
		⑧M	curved	tiny (and upstanding)	78
		⑧L	high-shouldered and curved	curved and upstanding, but lean outwards	74
9	LIA2	⑨SM	curved	curved and upstanding, but lean outwards	88
10	LIA2	⑤M	curved	tiny and upstanding	413
11	LIA2	④S	straight	curved outwards	1215
13	LIA2	⑥L	curved	curved outwards	1303
		⑨SM	loosely curved	curved outwards	1329
		⑨L	curved	curved outwards	1330
		⑨SM	curved	tiny and upstanding, but lean outwards	1308
		⑨SM	loosely curved	curved, upstanding and ibend outwards	1336
14		⑦L	curved	curved outwards	123
		③-④	curved	tiny and leans outwards	125

* '**Phase**' is based on the information on stratigraphy presented in the site report.

Table 5.26 Stratigraphic information on well-stratified ceramic groups from Hengistbury Head

Key Group No.	Phase	Ceramic No.	Ratio: N/M	Neck D.	Max D.	Ceramic type
KG11(L2)	J	1215	57.1	3.6	6.3	St (Cu-3)
KG14(L2)	F	125	53.6	4.5	8.4	Cu (Up-4)
KG14(L2)	F	123	66.7	7.6	11.4	Cu (Cu-7)
KG13(L2)	D	1303	64.4	5.8	9	Cu (Cu-6)
KG13(L2)	D	1329	72.1	4.4	6.1	LC (Cu-5)
KG13(L2)	D	1330	72.8	9.1	12.5	Cu (Cu-11)
KG13(L2)	D	1308	73	4.6	6.3	Cu (Up-4)
KG13(L2)	D	1336	73.8	5.9	8	LC (Cu-2)
KG9(L2)	D	88	76.5	7.5	9.8	Cu (Cu-10)
KG8(L2)	D	79	54.8	4.6	8.4	Cu (Cu-8)
KG8(L2)	D	82	63.6	5.6	8.8	Cu (Cu-9)
KG8(L2)	D	78	67.6	4.6	6.8	Cu (Up)
KG8(L2)	D	74	75.7	5.3	7	HS (Cu-4)
KG7(L2)	D	100	68.4	6.7	9.8	LC (Up-11)
KG6(L1)	C	440	63.8	4.4	6.9	LC (Cu-11)
KG6(L1)	C	384	69.4	3.4	4.9	LC (Up-14)
KG6(L1)	C	363	54.2	3.2	5.9	LC (Up)
KG6(L1)	C	411	72.1	6.2	8.6	LC (Up-13)
KG6(L1)	C	408	76.3	5.8	7.6	LC (Up-5)

Table 5.27 Data on categories ⑩ and ⑪ based on neck diameters (1)

Neck D	Ce. No.	Class	N / M	Neck D	Ce. No.	Class	N / M	Neck D	Ce. No.	Class	N / M
2.4	231	ba	80	4	2043	jc3.1	80	4.5	2029	bd2.2	84.9
3	506	bd2.2	90.9	4	2045	jc3.1	83.3	4.5	2085	jb2-4	84.9
3.1	1311	jb1	83.8	4	2049	jc3.1	83.3	4.5	2109	bd4.2	81.8
3.1	1864	bd4.2	93.9	4	2059	jc3.1	80	4.5	2127	jc2	90
3.2	1255	jc2	80	4.1	508	bd2.11	91.1	4.6	642	bb	90.2
3.2	2107	jc2	82.1	4.1	680	jd4.22	83.7	4.6	646	jb1	83.6
3.3	1242	bc3.51	86.8	4.1	1339	jb2-4	93.2	4.6	1613	bd5.1	95.8
3.4	651	ba	97.1	4.1	1608	bd4.4	95.3	4.6	1620	bd5.3	92
3.4	1059	bc3.3	87.2	4.1	1625	bd4.4	93.2	4.6	1627	jd4.21	86.8
3.5	1224	jd4.5	81.4	4.1	1630	bd4.2	82	4.6	1633	bc3.51	85.2
3.5	2123	bc3.51	89.7	4.1	1778	je3.2	78.8	4.6	1724	jc2	79.3
3.6	681	jd4.21	78.3	4.1	1828	bd4.4	93.2	4.6	1805	bc3.3	80.7
3.6	1868	bd4.2	90	4.1	1862	bd4.2	93.2	4.6	1832	jc2	83.6
3.6	2025	bd3.11	83.7	4.2	1275	bd3.11	95.5	4.6	2075	bd5.3	88.5
3.7	356	bd1.2	92.5	4.2	1513	ba	84	4.6	2080	jc2	92
3.7	700	jc3.1	84.1	4.2	1803	bd4.3	97.7	4.6	2202	jd4.21	82.1
3.7	1252	ba	92.5	4.3	229	bb	91.5	4.7	301	bd1.3	94
3.7	1312	jb2-4	92.5	4.3	504	bd4.2	93.5	4.7	312	bc3.3	85.5
3.7	1500	ba	90.2	4.3	595	bd2.11	84.3	4.7	678	jd4.22	88.7
3.7	1629	bd4.2	82.2	4.3	1085	jd4.22	84.3	4.7	1713	jc4.1	85.5
3.7	1810	jc2	88.1	4.3	1639	bd3.11	91.5	4.7	1728	jc2	87
3.7	1866	bd4.2	90.2	4.3	1833	jd4.21	84.3	4.7	1977	bd5.1	87
3.7	1867	bd4.2	90.2	4.3	1845	bd3.12	87.8	4.7	1994	bd3.11	92.2
3.7	1917	bd3.11	80.4	4.3	1909	bd3.11	93.5	4.7	2055	bc3.51	90.4
3.7	2017	bd4.3	78.7	4.3	1911	bd3.11	95.6	4.7	2061	bc3.3	83.9
3.8	308	jd4.5	79.2	4.3	2036	jc3.1	79.6	4.7	2065	bc3.3	87
3.8	430	jc2	97.4	4.3	2102	jd4.42	78.2	4.8	621	bd1.3	94.1
3.8	785	bd4.2	88.4	4.3	2108	jc2	84.3	4.8	660	jc2	80
3.8	1501	jb1	84.4	4.3	2132	bc3.11	82.7	4.8	1258	jb2-4	87.3
3.8	1738	jd4.42	79.2	4.4	438	bd1.2	88	4.8	1683	bd2.10	84.2
3.8	1870	jd4.21	88.4	4.4	589	bd3.12	93.6	4.8	1847	bd3.11	92.3
3.8	2119	jc3.1	80.9	4.4	735	bd2.12	86.3	4.8	1884	bd3.2	87.3
3.8	2208	jd4.3	80.9	4.4	1504	jb2-4	86.3	4.8	2129	jd4.22	92.3
3.9	349	jc3.2	88.6	4.4	1505	jb1	88	4.9	256	bd3.2	79
3.9	427	bd4.2	79.6	4.4	1652	bd4.2	86.3	4.9	259	bc3.3	85
3.9	645	bb	90.7	4.4	1700	bd2.2	95.7	4.9	516	bd1.3	90.7
3.9	1641	bc3.3	88.6	4.4	1737	jd4.41	81.5	4.9	594	bd4.3	80.3
3.9	1874	jd4.21	86.7	4.4	1830	bd4.4	95.7	4.9	1661	bd2.2	89.1
3.9	2131	mis	81.2	4.4	1981	bd3.2	80	4.9	1717	jd4.21	90.7
3.9	2201	jd4.21	83	4.5	664	jc2	81.8	4.9	1722	jd4.12	81.7
3.9	2205	jd4.21	86.7	4.5	1220	bd2.12	88.2	4.9	1770	bd3.11	86
4	391	bd4.2	90.9	4.5	1232	bc3.2	91.8	4.9	1839	bd2.10	89.1
4	435	bc3.2	95.2	4.5	1269	pb1.1	97.8	4.9	1880	bd3.11	94.2
4	1270	bc3.3	81.6	4.5	1279	jd4.21	86.5	4.9	1891	bd3.11	89.1
4	1273	bd5.3	88.9	4.5	1507	jb2-4	88.2	4.9	1918	bd3.11	89.1
4	1726	jc2	83.3	4.5	1649	bd3.11	90	4.9	1990	bd1.1	84.5
4	1863	bd4.4	95.2	4.5	1875	jd4.41	86.5	4.9	2126	jc3.2	84.5

Table 5.28 Data on categories ⑩ and ⑪ based on neck diameters (2)

Neck D	Ce. No.	Class	N / M
5	5	bd2.2	89.3
5	26	bd4.2	87.7
5	204	bd4.4	98
5	509	bd2.12	82
5	701	bc3.11	92.6
5	763	bc3.6	89.3
5	771	bc3.6	89.2
5	1228	bd2.2	86.2
5	1291	bd3.11	90.9
5	1665	bd2.2	86.2
5	1860	bd4.2	90.9
5	1888	bd3.11	94.3
5	1892	bd3.11	92.6
5	1896	bd3.11	86.2
5	1904	bd3.11	94.3
5	2026	bd3.11	89.3
5	2091	bd4.2	92.6
5.1	276	bd4.4	96.2
5.1	615	bd4.3	81
5.1	644	bb	92.7
5.1	665	jc2	82.3
5.1	1117	jc3.1	82.3
5.1	1287	je4.2	81
5.1	1317	bd4.2	94.4
5.1	1660	bd2.2	92.7
5.1	1677	bd1.3	94.4
5.1	1679	bd1.3	98.1
5.1	1754	je4.2	89.5
5.1	1887	bd3.11	94.4
5.1	1921	bd4.1	94.4
5.1	1976	bd2.2	85
5.1	2070	jc2	94.4
5.1	2116	bd1.2	79.7
5.2	429	jd4.21	88.1
5.2	654	jb2-4	83.9
5.2	740	bd4.4	92.9
5.2	760	bc3.2	89.7
5.2	1238	bc3.12	91.2
5.2	1606	bd4.4	98.1
5.2	1739	jc2	83.9
5.2	1856	bd4.1	89.7
5.2	1889	bd3.11	89.7
5.2	1905	bd3.11	89.7
5.2	2003	je4.1	82.5
5.3	527	bd3.2	89.8
5.3	647	ba	86.9
5.3	661	jc2	88.3
5.3	685	jd4.22	85.5
5.3	1068	jc2	89.8
5.3	1213	jc2	89.8
5.3	1251	bd2.11	98.1
5.3	1350	jc3.1	84.1
5.3	1636	bd3.11	89.8
5.3	1680	bd1.3	94.6
5.3	1686	bd2.10	91.4
5.3	1792	jc2	98.1
5.3	1808	jc3.1	85.5
5.3	1897	bd3.11	93
5.3	2226	jc4.1	88.3
5.4	518	bd1.1	98.2
5.4	587	bd1.3	94.7
5.4	657	jb1	88.5
5.4	1246	bc3.3	88.7
5.4	1781	je3.2	81.8
5.4	1791	ba	81.8
5.4	1811	jc2	94.7
5.4	2063	jc3.1	81.8
5.4	2072	bd4.3	93.1
5.4	2117	je3.3	78.3
5.4	2122	jc3.1	79.4
5.5	542	bd2.2	93.2
5.5	628	bd4.1	94.8
5.5	652	bb	93.2
5.5	1208	jd4.41	77.5
5.5	1322	bd2.10	90.2
5.5	1323	bd2.2	83.3
5.5	1694	bd2.2	91.7
5.5	1846	bd3.12	85.9

Neck D	Ce. No.	Class	N / M
5.5	1857	bd4.1	91.7
5.5	1876	bd3.11	87.3
5.5	1877	bd3.11	93.2
5.5	1906	bd3.11	93.2
5.5	1999	bd3.11	88.7
5.5	2000	bd3.11	90.2
5.5	2128	jd4.21	91.7
5.5	2130	bc3.3	85.9
5.6	21	jd4.11	78.9
5.6	389	mis	86.2
5.6	449	bd3.11	93.9
5.6	522	bd3.11	84.8
5.6	523	bd3.11	93.3
5.6	526	bd3.11	80
5.6	634	bd4.3	80
5.6	764	bc3.6	93.3
5.6	869	jd4.3	83.6
5.6	1662	bd2.2	91.8
5.6	1783	bd3.11	84.8
5.6	1835	bd3.11	93.3
5.6	1890	bd3.11	91.8
5.6	1908	bd3.11	91.8
5.6	1910	bd3.11	93.3
5.6	1916	bd3.11	93.3
5.6	1919	bd3.11	94.9
5.6	1980	bd3.11	87.5
5.6	1992	bd3.2	87.5
5.7	343	bd3.2	91.9
5.7	514	je2.1	79.1
5.7	552	je2.1	86.4
5.7	590	bc3.6	93.4
5.7	630	bd2.2	90.5
5.7	699	jc3.1	80.3
5.7	787	bd2.2	80.3
5.7	1272	bd4.4	91.9
5.7	1281	jd4.12	79.2
5.7	1283	bd5.1	89.1
5.7	1637	bc3.6	89
5.7	1774	je3.1	85
5.7	1881	bd3.11	90.5
5.7	1914	bd3.11	90.5
5.7	1993	bd3.11	83.8
5.7	2033	jc2	82.6
5.8	354	bd5.1	87.9
5.8	380	pb1.1	98.3
5.8	607	jd4.22	87.9
5.8	727	bd3.11	89.2
5.8	745	bd2.2	86.6
5.8	1257	jd4.21	89.2
5.8	1298	je3.1	78.4
5.8	1511	ba	95.1
5.8	1618	bd5.2	93.5
5.8	1651	bd4.3	95.1
5.8	1710	jc3.1	80.6
5.8	1972	bd2.11	95
5.9	1619	bd5.3	92.2
5.9	1653	bd2.2	86.8
5.9	1782	je3.2	84.3
5.9	1804	bd4.3	89.4
5.9	1855	bd5.3	90.8
5.9	1915	bd3.11	96.7
5.9	2016	bd2.10	96.7
5.9	2064	jc3.1	80.8
5.9	2110	jc2	79.7
5.9	2210	bd5.1	92.2
6	525	bd3.11	83.3
6	614	bd2.10	82.2
6	656	jb1	84.5
6	663	pb1.1	90.9
6	1256	bd3.11	90.9
6	1262	jb2-4	83.3
6	1650	bd3.11	88.2
6	1697	bd2.10	98.4
6	1727	jc2	83.3
6	1885	bd3.11	93.8
6	1895	bd3.11	92.3
6	1913	bd3.11	93.8
6	2042	jc3.1	80

Neck D	Ce. No.	Class	N / M
6	2044	jc3.1	81.1
6.1	7	bc3.51	95.3
6.1	388	bd3.11	87.1
6.1	537	bd4.1	92.4
6.1	637	bd1.1	96.8
6.1	769	bc3.6	91
6.1	1631	bd4.2	91
6.1	1667	bd2.10	93.8
6.1	1975	bd4.1	91
6.1	2073	bd3.11	93.8
6.2	275	bd3.11	91.2
6.2	519	bd3.11	89.9
6.2	524	bd3.11	91.2
6.2	871	jd4.3	80.5
6.2	1020	bd3.11	93.9
6.2	1107	bd3.11	92.5
6.2	1645	bd3.11	93.9
6.2	1673	bd2.10	87.3
6.2	1837	bd4.2	95.3
6.2	1861	bd4.2	92.5
6.2	1865	bd4.2	91.2
6.2	1894	bd3.11	89.9
6.2	1903	bd3.11	93.9
6.2	1912	bd3.12	93.9
6.2	1978	bd3.11	95.4
6.2	1985	jc3.1	84.9
6.2	1998	bd3.11	83.8
6.2	2024	bd3.11	95.4
6.2	2106	bd4.4	98.4
6.3	602	bd4.1	94
6.3	611	bd2.2	81.8
6.3	643	ba	85.1
6.3	686	jd4.22	84
6.3	696	jd4.3	77.8
6.3	754	je3.1	79.7
6.3	758	bd4.4	90
6.3	1294	bd3.11	88.7
6.3	1604	bd4.2	86.3
6.3	1642	bd3.11	92.6
6.3	1648	bd3.11	85.1
6.3	1681	bd2.10	90
6.3	1702	bd1.1	88.7
6.3	1779	je3.2	85.1
6.3	2034	jd4.5	86.3
6.3	2039	jc3.1	78.8
6.4	158	bd4.2	90.1
6.4	734	jd4.21	90.1
6.4	744	bd2.2	88.9
6.4	746	bd4.2	94.1
6.4	1664	bd2.10	90.1
6.4	1772	bd3.11	86.5
6.4	1790	jb1	90.1
6.4	1841	jc2	94.1
6.4	1900	bd3.11	91.4
6.4	1995	bd3.11	92.8
6.4	2069	lids	98.5
6.4	2105	bd4.3	79
6.5	520	bd3.11	82.3
6.5	653	bb	91.5
6.5	868	jd4.3	82.3
6.5	1014	bd4.1	94.2
6.5	1615	bd1.3	97
6.5	1628	bd4.4	94.2
6.5	1654	bd3.11	90.3
6.5	1780	je3.2	80.2
6.5	2113	bd2.11	90.3
6.6	857	jd4.22	88
6.6	1299	jc2	82.5
6.6	2060	bc3.12	95.7
6.6	2074	bd2.10	85.7
6.6	2095	je4.2	79.5
6.7	655	bb	82.7
6.7	1231	bd4.4	94.4
6.7	1250	jc2	79.8
6.7	1623	bd3.11	91.8
6.7	1859	bd3.11	91.8
6.8	866	jd4.3	84
6.8	1622	bd4.1	93.2

Table 5.29 Data on categories ⑩ and ⑪ based on neck diameters (3)

Neck D	Ce. No.	Class	N / M
6.8	1644	bd3.11	91.9
6.8	1646	bd3.11	94.4
6.8	1858	bd3.11	93.2
6.8	1878	bd3.11	93.2
6.8	1882	bd3.11	93.2
6.8	1893	bd3.11	90.7
6.8	1898	bd3.11	85
6.8	2022	bd3.11	95.8
6.9	1280	jc3.2	87.3
6.9	1319	jd4.42	81.2
6.9	1848	bd3.12	94.5
6.9	1886	bd3.11	92
6.9	1902	bd3.11	94.5
6.9	1997	bd3.11	92
7	521	bd3.11	89.7
7	1624	bd4.4	95.9
7	1753	bd2.2	94.6
7	1773	bd3.2	84.3
7	1794	jd4.42	83.3
7	1797	jd4.22	93.3
7	1879	bd3.11	92.1
7	2206	bd4.4	97.2
7.1	437	bd2.11	83.5
7.1	1626	bd4.3	95.9
7.1	1706	jd4.3	78.9
7.2	148	lids	97.3
7.2	596	bd2.11	92.3
7.2	601	bd1.1	88.9
7.2	1260	jc1	85.7
7.2	1265	bd3.11	92.3
7.2	1509	jb2-4	83.7
7.2	1632	bc3.51	94.7
7.2	2023	je3.1	80.9
7.3	757	jc3.2	86.9
7.3	1004	bd4.3	98.6
7.3	1235	bc3.42	97.3
7.3	1614	bd5.2	94.8
7.3	1668	bd2.11	91.3
7.3	1883	bd3.11	94.8
7.4	593	bd1.1	91.4
7.4	639	bd2.11	91.4
7.4	1669	bd2.11	90.2
7.4	1689	bd2.11	96.1
7.4	2035	jc3.1	85.1
7.5	626	bd1.1	90.4
7.5	715	jd4.22	90.4
7.5	1005	bd3.11	94.9
7.5	1266	bd2.10	87.2
7.5	1510	ba	93.8
7.5	1656	bd1.1	90.4
7.5	1674	bd1.1	88.2
7.5	1899	bd3.11	93.8
7.5	1974	bd1.1	89.3
7.6	510	bd4.1	90.5
7.6	1675	bd1.1	89.4
7.6	1776	je3.1	86.4
7.7	723	jd4.22	87.5
7.7	739	jd4.22	82.8
7.7	1233	bd2.10	93.9
7.7	1635	bc3.52	93.9
7.7	1638	bd3.11	93.9
7.7	2001	bd2.2	96.3
7.8	327	jd4.5	79.6
7.8	1765	je4.2	78
7.8	1989	bd1.1	89.7
7.9	157	bc3.42	98.8
7.9	1239	lids	98.8
7.9	1305	jb2-4	82.3
7.9	1795	jc2	84
7.9	2020	mis	94
7.9	2041	bc3.2	96.3
7.9	2048	mis	90.8

Neck D	Ce. No.	Class	N / M
8	12	bc3.51	93
8	627	bd1.1	78.4
8	633	jd4.12	84.2
8	1682	bd2.10	97.6
8	1851	bc3.51	92
8	2054	jc3.1	89.9
8.1	1236	bd4.1	92
8.1	1671	bd2.10	93.1
8.1	1970	bd2.10	93.1
8.2	1293	bc3.51	94.3
8.2	1663	bd2.10	96.5
8.2	1670	bd2.10	89.1
8.3	511	bd1.2	92.2
8.3	682	jd4.22	85.6
8.3	1296	bd1.3	94.3
8.3	1647	bd3.11	96.5
8.4	753	bd1.3	92.3
8.4	776	jc4.2	79.2
8.4	1278	jd4.22	89.4
8.4	1601	bd3.11	91.3
8.4	1723	jc3.1	80.8
8.5	1295	bd1.1	85
8.5	1634	bc3.51	95.5
8.5	1655	bd1.1	87.6
8.5	1973	bd2.10	92.4
8.6	631	bd2.11	86.9
8.6	767	bc3.52	91.5
8.6	1612	bc3.51	93.5
8.6	1967	bd1.1	86.9
8.7	24	jc2	81.3
8.7	546	bd1.1	92.6
8.7	1666	bd2.11	88.8
8.7	1991	bd1.1	87.9
8.7	2015	bd3.11	95.6
8.9	755	bd1.3	93.7
9	911	bc3.42	94.7
9.1	765	bc3.52	93.8
9.2	597	bd1.1	86
9.2	717	jd4.22	93.9
9.2	1007	bd4.4	97.9
9.2	1297	jc2	88.5
9.3	756	bd5.3	90.3
9.4	1001	bd1.3	94.9
9.4	2004	bc3.51	94.9
9.5	431	bd1.1	96
9.5	1318	jb1	83.3
9.8	608	bd1.1	87.5
9.8	2057	jd4.5	98
9.9	543	bd1.1	87.6
9.9	545	bc3.52	90.8
9.9	1282	jd4.21	93.4
9.9	2030	bd5.2	94.3
10	501	bd1.1	80
10	600	bd1.1	88.5
10.1	636	bd1.1	87.8
10.2	1206	jb1	79.7
10.3	1676	bd1.3	99
10.4	1274	bc3.51	89.7
10.5	2005	bc3.42	98.1
11.8	1249	bc3.42	96.7
12	1807	bd5.3	96.8

Table 5.30　Ceramic classification based on size and characteristics of shape: category ⑩ (1)

Category	Size	Type	(Upper) Body	Neck to rim	Ceramic No.
⑩	S	a	loosely curved	curved and upstanding, but lean outwards	231, 1311, 1868
		b	loosely curved	tiny and upstanding	1059, 2123
		c	straight	tiny and upstanding	1242
		d	loosely curved	curved outwards	2025
		e	straight	tiny and upstanding, but lean outwards	2107
		f	loosely curved	tiny and upstanding, but lean outwards	1255
		g	straight	curved and upstanding, but lean outwards	1864, 506, 681, 651
		h	high-shouldered and loosely curved	upstanding, but lean outwards	1224
	SM	a	straight	upstanding, but lean outwards, and upright tops	1339
		b	straight	upstanding, flat tops extending both inwards and outwards	654
		c	straight	tiny and upstanding	1808, 663, 1613, 148, 349, 2041, 2020, 2202, 1280, 1614, 1620, 2075, 1618, 1977, 1068, 1238, 2060, 1273, 661, 1851, 2054, 1612, 767
		d	straight	tiny and upstanding, but lean outwards	2205, 1874, 2201, 1627, 1279, 2129, 429, 1739, 2210, 2048, 391, 678, 607, 1107, 1792, 276, 1619, 1855, 1633, 7, 12, 527, 2126, 2001, 1634
		e	straight	tiny and upstanding, and tops extending both inwards and outwards	2080, 2055, 1632
		f	straight	upstanding, but is curved outwards	2128
		g	straight	upstanding, but lean outwards	1511, 380
		h	loosely curved	tiny and upstanding, and hollows on rim tops	1235, 157, 2036
		i	minute (but straight)	tiny and upstanding, but lean outwards	2069
		j	minute (but straight)	tiny and upstanding	1239
		k	high-shouldered and loosely curved	tiny and upstanding, and tops extending both inwards and outwards	2065, 2063
		l	curved	tiny and upstanding, but leans outwards	1350
		m	loosely curved	tiny and upstanding, and tops extending both inwards and outwards	664
		n	high-shouldered and loosely curved	tiny and upstanding	1270, 2061, 2033, 2044, 2039
		o	curved	upstanding, but curved outwards	1754, 2095, 1319, 1637
		p	curved	tiny and upstanding	2122, 699, 1985, 2035, 1710
		q	curved	upstanding and bend outwards	537, 1298
		r	curved	tiny, thick and upstanding inwards	776
		s	loosely curved	tiny and upstanding	2049, 2045, 2043, 2119, 700, 1641, 2127, 1726, 435, 660, 1117, 259, 2226, 665, 312, 1246, 1723, 24, 643, 2117, 1810, 1269, 1811, 1213, 2130, 2132, 701, 760

Table 5.31 Ceramic classification based on size and characteristics of shape: category ⑩ (2)

Category	Size	Type	(Upper) Body	Neck to rim	Ceramic No.
⑩		t	loosely curved	tiny and upstanding, but lean outwards	1232, 1832, 2131
		u	curved	upstanding, but lean outwards, and bend outwards	754
		v	loosely curved	upstanding and bend outwards	1208
		w	loosely curved	tiny, thick and upstanding, and flat tops	1713, 1805
		x	loosely curved	upstanding and curved outwards	1841, 1510, 2000, 521, 589, 1892, 1020, 2022
		y	loosely curved	upstanding, but lean outwards	229, 653, 1636, 1283, 1848, 1997, 1778, 1770, 1779, 1780
		z	loosely curved	curved and upstanding, but lean outwards	1507, 1258, 1262, 2070, 1727, 1790, 655, 1509, 1305, 868, 1250, 1795, 1299, 2003, 388, 2108, 1737, 430, 308, 1738, 2208, 427, 2059, 1220, 1875, 1724, 1911, 1649, 301, 1884, 1847, 1880, 1896, 1839, 1291, 1897, 1906, 1919, 1783, 343, 2073, 1915, 1876, 1992, 275, 519, 1846, 552, 1631, 1256, 1294, 1642, 1900, 1894, 1837, 1772, 1654, 1623, 866, 1893, 1879, 1644, 1646, 1797, 1265, 1776, 1005, 1635, 1601, 1647, 2015
		aa	loosely curved	curved outwards	1866, 2017, 1867, 1909, 2109, 2029, 771, 1990, 1905, 1661, 1228, 2026, 1317, 1860, 1916, 1914, 1804, 1885, 2016, 526, 1980, 1653, 256, 1993, 1782, 525, 1998, 1903, 1902, 1865, 1648, 2034, 614, 1650, 1861, 1673, 1681, 1664, 1859, 1858, 1878, 1886, 1858, 1882, 1689, 596, 1668, 593, 1899, 510, 626, 1675, 1674, 1266, 1682, 21, 1722, 869, 514, 871, 1670, 1973, 1655, 1991, 1666, 631, 1967, 1295
		bb	loosely curved	curved, upstanding, and bend outwards	1629, 594, 615, 1281, 787, 1639, 5, 542, 1322, 158, 2113, 601, 627, 2085
		cc	curved	curved, upstanding outwards, and bend inwards	647
		dd	high-shouldered	curved, upstanding, but lean outwards	26, 1774, 1898, 2023
		ee	high-shouldered	curved and upstanding	2110, 2064, 2042
		ff	high-shouldered	curved outwards	634, 1773, 1260
		gg	high-shouldered	curved, upstanding, and bend outwards	1765, 633, 327
		hh	curved	curved, upstanding, and bend outwards	611
		ii	curved	curved outwards	1630, 595, 1683, 2074, 1976, 1604, 437
		jj	curved	curved, upstanding, but lean outwards	1981, 1781, 522, 354, 520, 2105, 2102, 1287
		kk	straight	curved outwards	1889, 2116, 509, 524, 630, 745, 744, 1500, 644, 1904, 1660, 1999, 1662, 1881, 1895, 1912, 746, 1883, 1910, 1896, 1890, 1908, 504, 1608, 652, 740, 516, 1833, 685, 1085, 1665, 1323, 1989, 1671, 1656, 639, 1974, 546, 758, 686, 723, 1236, 1278, 739, 682, 1694, 2091, 764, 1975, 1856, 1669, 1803, 621, 1680, 1677, 1251, 587, 2072, 1679, 518, 637, 1615, 1651, 2024, 1697, 1686, 1978, 1972, 1913, 1628, 1231, 1622, 1626, 1004, 2106, 1233, 1663
		ll	straight	curved, upstanding outwards, and bend inwards	1501
		mm	straight	curved, upstanding, and tops extending both inwards and outwards	1505, 657

Table 5.32 Ceramic classification based on size and characteristics of shape: categories ⑩ and ⑪

Category	Size	Type	(Upper) Body	Neck to rim	Ceramic No.
⑩		nn	straight	curved, upstanding, and hollows on rim tops	646
		oo	straight	curved and upstanding	1252, 642, 1513, 1791, 656
		pp	straight	curved, upstanding, and bend outwards	1652, 438, 1921, 628, 1857, 1667, 602, 1970, 727, 590, 1995
		qq	straight	curved, upstanding, but lean outwards	1828, 508, 449, 735, 389, 696, 1794, 1706, 763, 769, 757, 1293, 1257, 734, 1702, 753, 511, 1845, 1877, 1994, 1918, 1835, 1887, 523, 1645, 1014, 1753, 2206, 1638, 1891, 1272, 857, 715, 356, 1830, 1862, 1700, 1888, 1870, 785, 1312, 1917, 680, 1504, 1728, 1717, 645, 1863, 1625, 1275, 204, 1636, 1624, 1296
	ML	a	loosely curved	curved and upstanding, but lean outwards	717
		b	straight	curved outwards	1007
		c	straight	curved and upstanding, but lean outwards	755, 1001
		d	straight	curved and bend outwards	431
		e	loosely curved	curved outwards	597
		f	straight	upstanding, but lean outwards	1318
		g	straight	upstanding	765
		h	straight	tiny and upstanding	2004, 756, 1297
		i	loosely curved	tiny, thick and upstanding, and flat tops	911
	L	a	straight	curved outwards	608
		b	loosely curved	curved outwards	636, 600, 543, 501, 1206
		c	straight	curved and upstanding, but lean outwards	1676
		d	straight	curved and upstanding	1282
		e	straight	tiny and upstanding	2030
		f	minute (but straight)	tiny and upstanding, and hollows on rim tops	2005
		g	loosely curved	tiny and upstanding	545
		h	curved	upstanding, but is curved outwards	1274
		i	high-shouldered	tiny and upstanding	2057
	XL	a	straight	tiny and upstanding	1807
		b	loosely curved	tiny and upstanding, and hollows on rim tops	1249
⑪		a	minute (but straight)	tiny and upstanding	2121, 505
		b	straight	curved and upstanding, but lean outwards	612

Table 5.33 Classification of categories ⑩ to ⑪ based on morphological characteristics: neck to rim shape and upper body shape

		Neck to Rim							
		Upstanding							
		tiny	tiny & thick	tiny Leaned outwards	Upstanding	Leaned outwards	Bent outwards	Leaned outwards Bent outwards	Curved outwards
Upper Body	High-shouldered	⑩SMk, ⑩SMn ⑩Li				⑩Sh			
	Curved	⑩SMp	⑩SMr	⑩SMl			⑩SMq	⑩SMu	⑩SMo ⑩Lh
	Loosely Curved	⑩Sb, ⑩SMh, ⑩SMm ⑩SMs ⑩Lg, ⑩XLb	⑩SMw ⑩MLi	⑩Sf ⑩SMt		⑩SMy	⑩SMv		⑩SMx
	Straight	⑩Sc, ⑩SMc, ⑩SMe ⑩SMj, ⑩MLh, ⑩Le, ⑩Lf, ⑩XLa, ⑪a		⑩Se, ⑩SMd ⑩SMi	⑩MLg	⑩SMa ⑩SMb, ⑩SMg ⑩MLf			⑩SMf

		Neck to Rim					
		Curved					
		Upstanding	Upstanding Leaned outwards	Upstanding Bent outwards	Upstanding outwards Bent inwards	Outwards Bent outwards	Outwards
Upper Body	High-shouldered	⑩SMee	⑩SMdd	⑩SMgg			⑩SMff
	Curved		⑩SMjj	⑩SMhh	⑩SMcc		⑩SMii
	Loosely Curved		⑩Sa ⑩SMz ⑩MLa	⑩SMbb			⑩Sd, ⑩SMaa ⑩MLe, ⑩Lb
	Straight	⑩SMmm, ⑩SMnn ⑩SMoo, ⑩Ld	⑩Sg, ⑩SMqq ⑩MLc, ⑩Lc, ⑪b	⑩SMpp	⑩SMll	⑩MLd	⑩SMkk ⑩MLb, ⑩La

S: Small
SM: Small-Middle
M: Middle
L: Large
XL: X-Large

Table 5.34 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (1)

High-shouldered

N / M	Classifiction	Ce No.
78	C/bent	1765
78.8	U/tiny	2039
79.6	C/bent	327
79.7	C/upstanding	2110
80	C/curved	634
80	C/upstanding	2042
80.8	C/upstanding	2064
80.9	C/upstanding	2023
81.1	U/tiny	2044
81.4	U/upstanding	1224
81.6	U/tiny	1270
81.8	U/tiny	2063
82.6	U/tiny	2033
83.9	U/tiny	2061
84.2	C/bent	633
84.3	C/curved	1773
85	C/upstanding	1774
85	C/upstanding	1898
85.7	C/curved	1260
87	U/tiny	2065
87.7	C/upstanding	26
98	U/tiny	2057

High-shouldered

Neck D	Classifiction	Ce No.
3.5	U/upstanding	1224
4	U/tiny	1270
4.7	U/tiny	2061
4.7	U/tiny	2065
5	C/upstanding	26
5.4	U/tiny	2063
5.6	C/curved	634
5.7	C/upstanding	1774
5.7	U/tiny	2033
5.9	C/upstanding	2064
5.9	C/upstanding	2110
6	C/upstanding	2042
6	U/tiny	2044
6.3	U/tiny	2039
6.8	C/upstanding	1898
7	C/curved	1773
7.2	C/curved	1260
7.2	C/upstanding	2023
7.8	C/bent	327
7.8	C/bent	1765
8	C/bent	633
9.8	U/tiny	2057

Curved

N / M	Classifiction	Ce No.
78.2	C/upstanding	2102
78.4	U/bent	1298
79	C/upstanding	2105
79.2	U/tiny	776
79.4	U/tiny	2122
79.5	U/curved	2095
79.7	U/bent	754
80	C/upstanding	1981
80.3	U/tiny	699
80.6	U/tiny	1710
81	C/upstanding	1287
81.2	U/curved	1319
81.8	C/bent	611
81.8	C/upstanding	1781
82	C/curved	1630
82.3	C/upstanding	520
83.5	C/curved	437
84.1	U/tiny	1350
84.2	C/curved	1683
84.3	C/curved	595
84.8	C/upstanding	522
84.9	U/tiny	1985
85	C/curved	1976
85.1	U/tiny	2035
85.7	C/curved	2074
86.3	C/curved	1604
86.9	C/bent(in)	647
87.9	C/upstanding	354
89	U/curved	1637
89.5	U/curved	1754
89.7	C/curved	1274
92.4	U/bent	537

Curved

Neck D	Classifiction	Ce No.
4.1	C/curved	1630
4.3	C/curved	595
4.3	C/upstanding	2102
4.4	C/upstanding	1981
4.8	C/curved	1683
5.1	C/upstanding	1287
5.1	U/curved	1754
5.1	C/curved	1976
5.3	C/bent(in)	647
5.3	U/tiny	1350
5.4	C/upstanding	1781
5.4	U/tiny	2122
5.6	C/upstanding	522
5.7	U/tiny	699
5.7	U/curved	1637
5.8	C/upstanding	354
5.8	U/bent	1298
5.8	U/tiny	1710
6.1	U/bent	537
6.2	U/tiny	1985
6.3	C/bent	611
6.3	U/bent	754
6.3	C/curved	1604
6.4	C/upstanding	2105
6.5	C/upstanding	520
6.6	C/curved	2074
6.6	U/curved	2095
6.9	U/curved	1319
7.1	C/curved	437
7.4	U/tiny	2035
8.4	U/tiny	776
10.4	C/curved	1274

Table 5.35 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (2)

Loosely Curved

N / M	Classifiction	Ce No.
77.5	U/bent	1208
78.3	U/tiny	2117
78.4	C/bent	627
78.7	C/curved	2017
78.8	U/upstanding	1778
78.9	C/curved	21
79	C/curved	256
79.1	C/curved	514
79.2	C/upstanding	308
79.2	C/bent	1281
79.2	C/upstanding	1738
79.3	C/upstanding	1724
79.6	C/upstanding	427
79.6	U/tiny	2036
79.7	C/curved	1206
79.8	C/upstanding	1250
80	C/curved	526
80	U/tiny	660
80	U/tiny	2043
80	C/upstanding	2059
80	C/curved	501
80	C/upstanding	231
80	U/tiny	1255

Loosely Curved

Neck D	Classifiction	Ce No.
2.4	C/upstanding	231
3.1	C/upstanding	1311
3.2	U/tiny	1255
3.4	U/tiny	1059
3.5	U/tiny	2123
3.6	C/curved	2025
3.6	C/upstanding	1868
3.7	U/tiny	700
3.7	C/bent	1629
3.7	U/tiny	1810
3.7	C/curved	1866
3.7	C/curved	1867
3.7	C/curved	2017
3.8	C/upstanding	308
3.8	C/upstanding	430
3.8	C/upstanding	1738
3.8	U/tiny	2119
3.8	C/upstanding	2208
3.9	C/upstanding	427
3.9	U/tiny	1641
3.9	U/tiny	2131
4	U/tiny	435
4	U/tiny	1726

Table 5.36 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (3)

Loosely Curved		
N / M	**Classifiction**	**Ce No.**
80.2	U/upstanding	1780
80.3	C/bent	594
80.3	C/bent	787
80.5	C/curved	871
80.7	U/tiny	1805
80.8	U/tiny	1723
80.9	U/tiny	2119
80.9	C/upstanding	2208
81	C/bent	615
81.2	U/tiny	2131
81.3	U/tiny	24
81.5	C/upstanding	1737
81.7	C/curved	1722
81.8	U/tiny	664
81.8	C/curved	2109
82.2	C/curved	614
82.2	C/bent	1629
82.3	U/tiny	665
82.3	C/upstanding	868
82.3	U/tiny	1117
82.3	C/upstanding	1305
82.5	C/upstanding	1299
82.5	C/upstanding	2003
82.7	C/upstanding	655
82.7	U/tiny	2132
83.3	C/curved	525
83.3	C/upstanding	1262
83.3	U/tiny	1726
83.3	C/upstanding	1727
83.3	U/tiny	2045
83.3	U/tiny	2049
83.6	C/curved	869
83.6	U/tiny	1832
83.7	C/upstanding	1509
83.7	C/curved	2025
83.8	C/curved	1993
83.8	C/curved	1998
83.8	C/upstanding	1311
84	C/upstanding	866
84	C/upstanding	1795
84.1	U/tiny	700
84.3	C/curved	1782
84.3	C/upstanding	2108
84.5	C/curved	1990
84.8	C/upstanding	1783
84.9	C/curved	2029
84.9	C/bent	2085
85	U/tiny	259
85	C/curved	1295
85.1	U/tiny	643
85.1	C/curved	1648
85.1	U/upstanding	1779
85.5	U/tiny	312
85.5	U/tiny	1713
85.9	C/upstanding	1846
85.9	U/tiny	2130
86	U/upstanding	1770
86	C/curved	597
86.2	C/curved	1228
86.2	C/upstanding	1896
86.3	C/curved	2034
86.4	C/upstanding	552
86.4	C/upstanding	1776
86.5	C/upstanding	1772
86.5	C/upstanding	1875
86.8	C/curved	1653
86.9	C/curved	631
86.9	C/curved	1967
87.1	C/upstanding	388
87.2	C/curved	1266
87.2	U/tiny	1059
87.3	C/upstanding	1258
87.3	C/curved	1673
87.3	C/upstanding	1876
87.3	C/upstanding	1884

Loosely Curved		
Neck D	**Classifiction**	**Ce No.**
4	U/tiny	2043
4	U/tiny	2045
4	U/tiny	2049
4	C/upstanding	2059
4.1	U/upstanding	1778
4.3	U/upstanding	229
4.3	C/bent	1639
4.3	C/curved	1909
4.3	C/upstanding	1911
4.3	U/tiny	2036
4.3	C/upstanding	2108
4.3	U/tiny	2132
4.4	U/curved	589
4.4	C/upstanding	1737
4.5	U/tiny	664
4.5	C/upstanding	1220
4.5	U/tiny	1232
4.5	U/tiny	1269
4.5	C/upstanding	1507
4.5	C/upstanding	1649
4.5	C/upstanding	1875
4.5	C/curved	2029
4.5	C/bent	2085
4.5	C/curved	2109
4.5	U/tiny	2127
4.6	C/upstanding	1724
4.6	U/tiny	1805
4.6	U/tiny	1832
4.7	C/upstanding	301
4.7	U/tiny	312
4.7	U/tiny	1713
4.8	U/tiny	660
4.8	C/upstanding	1258
4.8	C/upstanding	1847
4.8	C/upstanding	1884
4.9	C/curved	256
4.9	U/tiny	259
4.9	C/bent	594
4.9	C/curved	1661
4.9	C/curved	1722
4.9	U/upstanding	1770
4.9	C/upstanding	1839
4.9	C/upstanding	1880
4.9	C/curved	1990
5	C/bent	5
5	U/tiny	701
5	C/curved	771
5	C/curved	1228
5	C/upstanding	1291
5	C/curved	1860
5	U/curved	1892
5	C/upstanding	1896
5	C/curved	2026
5.1	C/bent	615
5.1	U/tiny	665
5.1	U/tiny	1117
5.1	C/curved	1317
5.1	C/upstanding	2070
5.2	U/tiny	760
5.2	C/curved	1905
5.2	C/upstanding	2003
5.3	U/tiny	1213
5.3	U/upstanding	1636
5.3	C/upstanding	1897
5.3	U/tiny	2226
5.4	U/tiny	1246
5.4	U/tiny	1811
5.4	U/tiny	2117
5.5	C/bent	542
5.5	U/bent	1208
5.5	C/bent	1322
5.5	C/upstanding	1846
5.5	C/upstanding	1876
5.5	C/upstanding	1906
5.5	U/curved	2000

Table 5.37 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (4)

Loosely Curved		
N / M	**Classifiction**	**Ce No.**
87.5	C/curved	1980
87.5	C/upstanding	1992
87.6	C/curved	1655
87.6	C/curved	543
87.8	C/curved	636
87.9	C/curved	1991
88.1	U/tiny	1810
88.2	C/upstanding	1220
88.2	C/upstanding	1507
88.2	C/curved	1650
88.2	C/curved	1674
88.3	U/tiny	2226
88.5	C/curved	600
88.6	U/tiny	1641
88.7	U/tiny	1246
88.7	C/upstanding	1294
88.8	C/curved	1666
88.9	C/bent	601
89.1	U/upstanding	1283
89.1	C/curved	1661
89.1	C/curved	1670
89.1	C/upstanding	1839
89.2	C/curved	771
89.3	C/bent	5
89.3	C/curved	2026
89.4	C/curved	1675
89.4	C/curved	1804
89.7	U/curved	521
89.7	U/tiny	760
89.7	C/curved	1905
89.7	U/tiny	2123
89.8	U/upstanding	1636
89.8	U/tiny	1213
89.9	C/upstanding	519
89.9	C/upstanding	1894
90	C/upstanding	1649
90	C/curved	1681
90	U/tiny	2127
90	C/upstanding	1868
90.1	C/bent	158
90.1	C/curved	1664
90.1	C/upstanding	1790
90.2	C/bent	1322
90.2	C/curved	1866
90.2	C/curved	1867
90.2	U/curved	2000
90.3	C/upstanding	1654
90.3	C/bent	2113
90.4	C/curved	626
90.5	C/curved	510
90.5	C/curved	1914
90.7	C/upstanding	1893
90.8	U/tiny	545
90.9	C/upstanding	1256
90.9	C/upstanding	1291
90.9	C/curved	1860
91	C/upstanding	1631
91.2	C/upstanding	275
91.2	C/curved	1865
91.3	C/upstanding	1601
91.3	C/curved	1668
91.4	C/curved	593
91.4	C/upstanding	1900
91.5	U/upstanding	229
91.5	U/upstanding	653
91.5	C/bent	1639
91.8	U/tiny	1232

Loosely Curved		
Neck D	**Classifiction**	**Ce No.**
5.5	U/tiny	2130
5.6	C/curved	21
5.6	C/curved	526
5.6	C/curved	869
5.6	C/upstanding	1783
5.6	C/curved	1916
5.6	C/upstanding	1919
5.6	C/curved	1980
5.6	C/upstanding	1992
5.7	C/upstanding	343
5.7	C/curved	514
5.7	C/upstanding	552
5.7	C/bent	787
5.7	C/bent	1281
5.7	U/upstanding	1283
5.7	C/curved	1914
5.7	C/curved	1993
5.9	C/curved	1653
5.9	C/curved	1782
5.9	C/curved	1804
5.9	C/upstanding	1915
5.9	C/curved	2016
6	C/curved	525
6	C/curved	614
6	C/upstanding	1256
6	C/upstanding	1262
6	C/curved	1650
6	C/upstanding	1727
6	C/curved	1885
6.1	C/upstanding	388
6.1	C/upstanding	1631
6.1	C/upstanding	2073
6.2	C/upstanding	275
6.2	C/upstanding	519
6.2	C/curved	871
6.2	U/curved	1020
6.2	C/curved	1673
6.2	C/upstanding	1837
6.2	C/curved	1861
6.2	C/curved	1865
6.2	C/upstanding	1894
6.2	C/curved	1903
6.2	C/curved	1998
6.3	U/tiny	643
6.3	C/upstanding	1294
6.3	C/upstanding	1642
6.3	C/curved	1648
6.3	C/curved	1681
6.3	U/upstanding	1779
6.3	C/curved	2034
6.4	C/bent	158
6.4	C/curved	1664
6.4	C/upstanding	1772
6.4	C/upstanding	1790
6.4	U/curved	1841
6.4	C/upstanding	1900
6.5	U/upstanding	653
6.5	C/upstanding	868
6.5	C/upstanding	1654
6.5	U/upstanding	1780
6.5	C/bent	2113
6.6	C/upstanding	1299
6.7	C/upstanding	655
6.7	C/upstanding	1250
6.7	C/upstanding	1623
6.7	C/curved	1859
6.8	C/upstanding	866

Table 5.38 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (5)

	Loosely Curved	
N / M	Classifiction	Ce No.
91.8	C/upstanding	1623
91.8	C/curved	1859
91.9	C/upstanding	343
91.9	C/upstanding	1644
92	C/curved	1886
92	U/upstanding	1997
92.1	C/upstanding	1879
92.3	C/curved	596
92.3	C/upstanding	1265
92.3	C/upstanding	1847
92.4	C/curved	1973
92.5	C/curved	1861
92.6	U/tiny	701
92.6	C/upstanding	1642
92.6	U/curved	1892
93	C/upstanding	1897
93.2	C/bent	542
93.2	C/curved	1858
93.2	C/curved	1878
93.2	C/curved	1882
93.2	C/upstanding	1906
93.3	C/upstanding	1797
93.3	C/curved	1916
93.5	C/curved	1909
93.6	U/curved	589
93.8	U/curved	1510
93.8	C/curved	1885
93.8	C/curved	1899
93.8	C/upstanding	2073
93.9	U/curved	1020
93.9	C/upstanding	1635
93.9	C/curved	1903
93.9	C/upstanding	717
94	C/upstanding	301
94.1	U/curved	1841
94.2	C/upstanding	1880
94.4	C/curved	1317
94.4	C/upstanding	1646
94.4	C/upstanding	2070
94.5	U/upstanding	1848
94.5	C/curved	1902
94.7	U/tiny	1811
94.7	U/tiny	911
94.9	C/upstanding	1005
94.9	C/upstanding	1919
95.2	U/tiny	435
95.3	C/upstanding	1837
95.6	C/upstanding	1911
95.6	C/upstanding	2015
95.8	U/curved	2022
96.1	C/curved	1689
96.5	C/upstanding	1647
96.7	C/upstanding	1915
96.7	C/curved	2016
96.7	U/tiny	1249
97.3	U/tiny	1235
97.4	C/upstanding	430
97.6	C/curved	1682
97.8	U/tiny	1269
98.8	U/tiny	157

	Loosely Curved	
Neck D	Classifiction	Ce No.
6.8	C/upstanding	1644
6.8	C/upstanding	1646
6.8	C/curved	1858
6.8	C/curved	1878
6.8	C/curved	1882
6.8	C/upstanding	1893
6.8	U/curved	2022
6.9	U/upstanding	1848
6.9	C/curved	1886
6.9	C/curved	1902
6.9	U/upstanding	1997
7	U/curved	521
7	C/upstanding	1797
7	C/upstanding	1879
7.2	C/curved	596
7.2	C/bent	601
7.2	C/upstanding	1265
7.2	C/upstanding	1509
7.3	U/tiny	1235
7.3	C/curved	1668
7.4	C/curved	593
7.4	C/curved	1689
7.5	C/curved	626
7.5	C/upstanding	1005
7.5	C/curved	1266
7.5	U/curved	1510
7.5	C/curved	1674
7.5	C/curved	1899
7.6	C/curved	510
7.6	C/curved	1675
7.6	C/upstanding	1776
7.7	C/upstanding	1635
7.9	U/tiny	157
7.9	C/upstanding	1305
7.9	C/upstanding	1795
8	C/bent	627
8	C/curved	1682
8.2	C/curved	1670
8.3	C/upstanding	1647
8.4	C/upstanding	1601
8.4	U/tiny	1723
8.5	C/curved	1295
8.5	C/curved	1655
8.5	C/curved	1973
8.6	C/curved	631
8.6	C/curved	1967
8.7	U/tiny	24
8.7	C/curved	1666
8.7	C/curved	1991
8.7	C/upstanding	2015
9	U/tiny	911
9.2	C/curved	597
9.2	C/upstanding	717
9.9	U/tiny	545
9.9	C/curved	543
10	C/curved	501
10	C/curved	600
10.1	C/curved	636
10.2	C/curved	1206
11.8	U/tiny	1249

Table 5.39 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (6)

	Straight	
N / M	Classifiction	Ce No.
77.8	C/upstanding	696
78.3	C/upstanding	681
78.9	C/upstanding	1706
79.7	C/curved	2116
80.4	C/upstanding	1917
81.8	C/upstanding	1791
82	C/curved	509
82.1	U/tiny	2107
82.1	U/tiny	2202
82.8	C/curved	739
83	U/tiny	2201
83.3	C/curved	1323
83.3	C/upstanding	1794
83.3	U/upstanding	1318
83.6	C/upstanding	646
83.7	C/upstanding	680
83.9	U/upstanding	654
83.9	U/tiny	1739
84	C/curved	686
84	C/upstanding	1513
84.3	C/curved	1085
84.3	C/curved	1833
84.4	C/bent(in)	1501
84.5	C/upstanding	656
84.5	U/tiny	2126
85.2	U/tiny	1633
85.5	C/curved	685
85.5	U/tiny	1808
85.6	C/curved	682
86.2	C/upstanding	389
86.2	C/curved	1665
86.3	C/upstanding	735
86.3	C/upstanding	1504
86.3	C/bent	1652
86.5	U/tiny	1279
86.6	C/curved	745
86.7	U/tiny	1874
86.7	U/tiny	2205
86.8	U/tiny	1242
86.8	U/tiny	1627
86.9	C/upstanding	757
87	C/upstanding	1728
87	U/tiny	1977
87.3	U/tiny	1280
87.5	C/curved	723
87.5	C/curved	608
87.8	C/upstanding	1845
87.9	U/tiny	607
88	C/bent	438
88	C/upstanding	857
88	C/upstanding	1505
88.1	U/tiny	429
88.3	U/tiny	661
88.4	C/upstanding	785
88.4	C/upstanding	1870
88.5	C/upstanding	657
88.5	U/tiny	2075
88.5	U/tiny	1297
88.6	U/tiny	349
88.7	U/tiny	678
88.7	C/upstanding	1702
88.7	C/curved	1999
88.9	C/curved	744
88.9	U/tiny	1273
89.1	C/upstanding	1891
89.1	C/upstanding	1918
89.2	C/bent	727
89.2	C/upstanding	1257
89.3	C/upstanding	763
89.3	C/curved	1974
89.4	C/curved	1278
89.7	C/curved	1856
89.7	C/curved	1889
89.7	C/curved	1989
89.8	U/tiny	527
89.8	U/tiny	1068
89.9	U/tiny	2054

	Straight	
Neck D	Classifiction	Ce No.
3	C/upstanding	506
3.1	C/upstanding	1864
3.2	U/tiny	2107
3.3	U/tiny	1242
3.4	C/upstanding	651
3.6	C/upstanding	681
3.7	C/upstanding	356
3.7	C/upstanding	1252
3.7	C/upstanding	1312
3.7	C/curved	1500
3.7	C/upstanding	1917
3.8	C/upstanding	785
3.8	C/bent(in)	1501
3.8	C/upstanding	1870
3.9	U/tiny	349
3.9	C/upstanding	645
3.9	U/tiny	1874
3.9	U/tiny	2201
3.9	U/tiny	2205
4	U/tiny	391
4	U/tiny	1273
4	C/upstanding	1863
4.1	C/upstanding	508
4.1	C/upstanding	680
4.1	U/upstanding	1339
4.1	C/curved	1608
4.1	C/upstanding	1625
4.1	C/upstanding	1828
4.1	C/upstanding	1862
4.2	C/upstanding	1275
4.2	C/upstanding	1513
4.2	C/curved	1803
4.3	C/curved	504
4.3	C/curved	1085
4.3	C/curved	1833
4.3	C/upstanding	1845
4.4	C/bent	438
4.4	C/upstanding	735
4.4	C/upstanding	1504
4.4	C/upstanding	1505
4.4	C/bent	1652
4.4	C/upstanding	1700
4.4	C/upstanding	1830
4.5	U/tiny	1279
4.6	C/upstanding	642
4.6	C/upstanding	646
4.6	U/tiny	1613
4.6	U/tiny	1620
4.6	U/tiny	1627
4.6	U/tiny	1633
4.6	U/tiny	2075
4.6	U/tiny	2080
4.6	U/tiny	2202
4.7	U/tiny	678
4.7	C/upstanding	1728
4.7	U/tiny	1977
4.7	C/upstanding	1994
4.7	U/tiny	2055
4.8	C/curved	621
4.8	U/tiny	2129
4.9	C/curved	516
4.9	C/upstanding	1717
4.9	C/upstanding	1891
4.9	C/upstanding	1918
4.9	U/tiny	2126
5	C/upstanding	204
5	C/curved	509
5	C/upstanding	763
5	C/curved	1665
5	C/upstanding	1888
5	C/curved	1904
5	C/curved	2091
5.1	U/tiny	276
5.1	C/curved	644
5.1	C/curved	1660
5.1	C/curved	1677
5.1	C/curved	1679

Table 5.40 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (7)

	Straight	
N / M	Classifiction	Ce No.
90	C/curved	758
90.1	C/upstanding	734
90.2	C/upstanding	642
90.2	C/curved	1500
90.2	C/curved	1669
90.3	U/tiny	756
90.4	C/upstanding	715
90.4	C/curved	1656
90.4	U/tiny	2055
90.5	C/curved	630
90.5	C/curved	1881
90.7	C/curved	516
90.7	C/upstanding	645
90.7	C/upstanding	1717
90.8	U/tiny	1855
90.8	U/tiny	2048
90.9	C/upstanding	506
90.9	U/tiny	391
90.9	U/tiny	663
91	C/upstanding	769
91	C/curved	1975
91.1	C/upstanding	508
91.2	C/curved	524
91.2	U/tiny	1238
91.4	C/curved	639
91.4	C/curved	1686
91.5	U/tiny	767
91.7	C/curved	1694
91.7	C/bent	1857
91.7	U/curved	2128
91.8	C/curved	1662
91.8	C/curved	1890
91.8	C/curved	1908
91.9	C/upstanding	1272
92	C/curved	1236
92	U/tiny	1620
92	U/tiny	1851
92	U/tiny	2080
92.2	C/upstanding	511
92.2	U/tiny	1619
92.2	C/upstanding	1994
92.2	U/tiny	2210
92.3	C/upstanding	753
92.3	C/curved	1895
92.3	U/tiny	2129
92.5	C/upstanding	356
92.5	U/tiny	1107
92.5	C/upstanding	1252
92.5	C/upstanding	1312
92.6	C/bent	546
92.6	C/curved	2091
92.7	C/curved	644
92.7	C/curved	1660
92.8	C/bent	1995
92.9	C/curved	740
93	U/tiny	12
93.1	C/curved	1671
93.1	C/bent	1970
93.1	C/curved	2072
93.2	C/curved	652
93.2	U/upstanding	1339
93.2	C/curved	1622
93.2	C/upstanding	1625
93.2	C/upstanding	1828
93.2	C/upstanding	1862
93.2	C/upstanding	1877
93.3	C/upstanding	523
93.3	C/curved	764
93.3	C/upstanding	1835
93.3	C/curved	1910
93.4	C/bent	590
93.4	C/upstanding	1282
93.5	C/curved	504
93.5	U/tiny	1612
93.5	U/tiny	1618

	Straight	
Neck D	Classifiction	Ce No.
5.1	C/upstanding	1887
5.1	C/bent	1921
5.1	C/curved	2116
5.2	U/tiny	429
5.2	U/upstanding	654
5.2	C/curved	740
5.2	U/tiny	1238
5.2	U/tiny	1739
5.2	C/curved	1856
5.2	C/curved	1889
5.2	C/upstanding	1606
5.3	U/tiny	527
5.3	U/tiny	661
5.3	C/curved	685
5.3	U/tiny	1068
5.3	C/curved	1251
5.3	C/curved	1680
5.3	C/curved	1686
5.3	U/tiny	1792
5.3	U/tiny	1808
5.4	C/curved	518
5.4	C/curved	587
5.4	C/upstanding	657
5.4	C/upstanding	1791
5.4	C/curved	2072
5.5	C/bent	628
5.5	C/curved	652
5.5	C/curved	1323
5.5	C/curved	1694
5.5	C/bent	1857
5.5	C/upstanding	1877
5.5	C/curved	1999
5.5	U/curved	2128
5.6	C/upstanding	389
5.6	C/upstanding	449
5.6	C/upstanding	523
5.6	C/curved	764
5.6	C/curved	1662
5.6	C/upstanding	1835
5.6	C/curved	1890
5.6	C/curved	1908
5.6	C/curved	1910
5.7	C/bent	590
5.7	C/curved	630
5.7	C/upstanding	1272
5.7	C/curved	1881
5.8	U/upstanding	380
5.8	U/tiny	607
5.8	C/bent	727
5.8	C/curved	745
5.8	C/upstanding	1257
5.8	U/upstanding	1511
5.8	U/tiny	1618
5.8	C/curved	1651
5.8	C/curved	1972
5.9	U/tiny	1619
5.9	U/tiny	1855
5.9	U/tiny	2210
6	C/upstanding	656
6	U/tiny	663
6	C/curved	1697
6	C/curved	1895
6	C/curved	1913
6.1	U/tiny	7
6.1	C/curved	637
6.1	C/upstanding	769
6.1	C/bent	1667
6.1	C/curved	1975
6.2	C/curved	524
6.2	U/tiny	1107
6.2	C/upstanding	1645
6.2	C/curved	1912
6.2	C/curved	1978
6.2	C/curved	2024
6.2	C/curved	2106

Table 5.41 Data on the ratio of neck diameters to max. diameters and neck diameters of the four upper body groups (8)

	Straight	
N / M	Classifiction	Ce No.
93.7	C/upstanding	755
93.8	C/bent	1667
93.8	C/curved	1913
93.8	U/upstanding	765
93.9	C/upstanding	1864
93.9	C/upstanding	449
93.9	C/curved	1233
93.9	C/upstanding	1638
93.9	C/upstanding	1645
93.9	C/curved	1912
94	C/bent	602
94	U/tiny	2020
94.1	C/curved	621
94.1	C/curved	746
94.2	C/upstanding	1014
94.2	C/curved	1628
94.3	C/upstanding	1293
94.3	C/upstanding	1296
94.3	C/upstanding	1888
94.3	C/curved	1904
94.3	U/tiny	2030
94.4	C/curved	1231
94.4	C/curved	1677
94.4	C/upstanding	1887
94.4	C/bent	1921
94.6	C/curved	1680
94.6	C/upstanding	1753
94.7	C/curved	587
94.7	U/tiny	1632
94.8	C/bent	628
94.8	U/tiny	1614
94.8	C/curved	1883
94.9	C/upstanding	1001
94.9	U/tiny	2004
95	C/curved	1972
95.1	U/upstanding	1511
95.1	C/curved	1651
95.2	C/upstanding	1863
95.3	U/tiny	7
95.3	C/curved	1608
95.4	C/curved	1978
95.4	C/curved	2024
95.5	C/upstanding	1275
95.5	U/tiny	1634
95.7	C/upstanding	1700
95.7	C/upstanding	1830
95.7	U/tiny	2060
95.8	U/tiny	1613
95.9	C/upstanding	1624
95.9	C/curved	1626
96	C/bent	431
96.2	U/tiny	276
96.3	U/tiny	2001
96.3	U/tiny	2041
96.5	C/curved	1663
96.8	C/curved	637
96.8	U/tiny	1807
97	C/curved	1615
97.1	C/upstanding	651
97.2	C/upstanding	2206
97.3	U/tiny	148
97.7	C/curved	1803
97.9	C/curved	1007
98	C/upstanding	204
98.1	C/curved	1251
98.1	C/curved	1679
98.1	U/tiny	1792
98.1	U/tiny	2005
98.1	C/upstanding	1606
98.2	C/curved	518
98.3	U/upstanding	380
98.4	C/curved	1697
98.4	C/curved	2106
98.5	U/tiny	2069
98.6	C/curved	1004
98.8	U/tiny	1239
99	C/upstanding	1676

	Straight	
Neck D	Classifiction	Ce No.
6.3	C/bent	602
6.3	C/curved	686
6.3	C/upstanding	696
6.3	C/curved	758
6.3	C/upstanding	1702
6.4	C/upstanding	734
6.4	C/curved	744
6.4	C/curved	746
6.4	C/bent	1995
6.4	U/tiny	2069
6.5	C/upstanding	1014
6.5	C/curved	1615
6.5	C/curved	1628
6.6	C/upstanding	857
6.6	U/tiny	2060
6.7	C/curved	1231
6.8	C/curved	1622
6.9	U/tiny	1280
7	C/upstanding	1624
7	C/upstanding	1753
7	C/upstanding	1794
7	C/upstanding	2206
7.1	C/curved	1626
7.1	C/upstanding	1706
7.2	U/tiny	148
7.2	U/tiny	1632
7.3	C/upstanding	757
7.3	C/curved	1004
7.3	U/tiny	1614
7.3	C/curved	1883
7.4	C/curved	639
7.4	C/curved	1669
7.5	C/upstanding	715
7.5	C/curved	1656
7.5	C/curved	1974
7.7	C/curved	723
7.7	C/curved	739
7.7	C/curved	1233
7.7	C/upstanding	1638
7.7	U/tiny	2001
7.8	C/curved	1989
7.9	U/tiny	1239
7.9	U/tiny	2020
7.9	U/tiny	2041
7.9	U/tiny	2048
8	U/tiny	12
8	U/tiny	1851
8	U/tiny	2054
8.1	C/curved	1236
8.1	C/curved	1671
8.1	C/bent	1970
8.2	C/upstanding	1293
8.2	C/curved	1663
8.3	C/upstanding	511
8.3	C/curved	682
8.3	C/upstanding	1296
8.4	C/upstanding	753
8.4	C/curved	1278
8.5	U/tiny	1634
8.6	U/tiny	767
8.6	U/tiny	1612
8.7	C/bent	546
8.9	C/upstanding	755
9.1	U/upstanding	765
9.2	C/curved	1007
9.2	U/tiny	1297
9.3	U/tiny	756
9.4	C/upstanding	1001
9.4	U/tiny	2004
9.5	C/bent	431
9.5	U/upstanding	1318
9.8	C/curved	608
9.9	U/tiny	2030
9.9	C/upstanding	1282
10.3	C/upstanding	1676
10.5	U/tiny	2005
12	U/tiny	1807

Table 5.42 Classification of 'High-shouldered' types in categories ⑩ and ⑪ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	lean outwards rim, and small sized neck (no. 1224)
	2	tiny rim, and small sized neck (no. 1270)
	3	tiny rim, and small-middle sized neck
	4	tiny rim, X-large sized neck, and non-swollen body (no. 2057)
Curved	1	upstanding and leaned outwards rim, and small-middle sized neck (no. 26, 1774)
	2	upstanding rim, and small-middle sized neck (no. 2110, 2064, 2042)
	3	upstanding and leaned outwards rim, and middle-large sized neck (no. 1898, 2023)
	4	curved outwards rim, and small-middle sized neck (no. 634)
	5	curved outwards rim, and middle-large sized neck (no. 1773, 1260)
	6	upstanding and bent outwards rim, and large sized neck (no. 1765, 327, 633)

Table 5.43 Classification of 'Curved' types in categories ⑩ and ⑪ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	curved outwards rim, and small-middle sized neck (no. 1754, 1637)
	2	curved outwards rim, and middle-large sized neck (no. 2095, 1319)
	3	curved outwards rim, and X-large sized neck * relatively non-swollen body (no. 1274)
	4	tiny and leaned outwards rim, and small-middle sized neck (no. 1350)
	5	tiny rim, and small-middle sized neck (no. 1710, 2122, 699)
	6	tiny rim, and middle-large sized neck (no. 1985, 2035)
	7	tiny rim, but thick and upstanding inwards, and large sized neck * relatively swollen body (no. 776)
	8	bend outwards rim, and small-middle sized neck (no. 1298)
	9	bend outwards rim, and middle-large sized neck * non-swollen body (no. 537)
	10	lean outwards and bend outwards rim, and middle-large sized neck (no. 754)
Curved	1	upstanding and leaned outwards rim, and small sized neck (no. 2102, 1981)
	2	upstanding and leaned outwards rim, and small-middle sized neck
	3	upstanding and leaned outwards rim, and middle-large sized neck (no. 2105, 520)
	4	curved outwards rim, and small sized neck (no. 1630, 595)
	5	curved outwards rim, and small-middle sized neck (no. 1683, 1976)
	6	curved outwards rim, and middle-large sized neck (no. 2074, 1604, 437
	7	upstanding and bent outwards, and middle-large sized neck (no. 611)
	8	upstanding outwards and bend inwards, and small-middle sized neck (no. 647)

Table 5.44 Classification of 'Loosely Curved' types in categories ⑩ and ⑪ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	tiny rim, and small sized neck (no. 1059, 2123)
	2	tiny and leaned outwards rim, and small sized neck (no. 1255)
	3	tiny and leaned outwards rim, and small-middle sized neck (no. 1232, 1832, 2131)
	4	tiny and thick rim, but tops are flat, and small-middle sized neck (no. 1713, 1805)
	5	tiny rim, but a rim top is hollow, and small-middle sized neck (no. 1235, 157, 2036)
	6	tiny rim, but a top extends both inwards and outwards, and small-middle sized neck (no. 664)
	7	tiny rim, and small-middle sized neck
	8	tiny rim, and middle-large sized neck (no. 1723, 24)
	9	tiny and thick rim, but a top is flat, and large 1 sized neck (no. 911)
	10	tiny rim, and large 2 sized neck (no. 545)
	11	tiny rim, but a top is hollow, and X-large sized neck (no. 1249)
	12	leaned outwards rim, and small-middle sized neck
	13	bent outwards rim, and small-middle sized neck (no. 1208)
	14	curved outwards rim, and small-middle sized neck * relatively non-swollen body
Curved	1	upstanding and leaned outwards rim, and tiny sized neck (no. 231)
	2	upstanding and leaned outwards rim, and small sized neck (no. 1311, 1868)
	3	upstanding and leaned outwards rim, and large 1 sized neck (no. 717)
	4	upstanding and leaned outwards rim, and middle-large sized neck (no. 1601, 1647, 2015)
	5	upstanding and leaned outwards rim, and small-middle sized neck
	6	upstanding and bent outwards, and small-middle sized neck
	7	curved outwards rim, and small sized neck (no. 2025)
	8	curved outwards rim, and middle-large sized neck
	9	curved outwards rim, and large 1 sized neck (no. 597)
	10	curved outwards rim, and large 2 sized neck
	11	curved outwards rim, and small-middle sized neck

Table 5.45 Classification of 'Straight' types in categories ⑩ and ⑪ based on morphological analysis

Rim	Type	Detailed characteristics
Upstanding	1	tiny rim, and small sized neck (no. 1242)
	2	tiny and leaned outwards rim, and small sized neck (no. 2107)
	3	tiny rim, and small-middle sized neck * including ⑪a (no. 2121, 505)
	4	tiny and leaned outwards rim, and small-middle sized neck
	5	tiny rim, but a top extends both inwards and outwards, and small-middle sized neck (no. 2080, 2055)
	6	tiny and leaned outwards rim, and small-middle sized neck * The upper body is minute. (no. 2069)
	7	tiny rim, and middle sized neck (no. 2060, 1280)
	8	tiny rim, and middle-large sized neck
	9	tiny and leaned outwards rim, and middle-large sized neck (no. 2048, 12, 1634, 2001)
	10	tiny and leaned outwards rim, and middle-large sized neck * The upper body is minute. (no. 148, 1239, 2020)
	11	tiny rim, and large 1 sized neck (no. 1297, 756, 2004)
	12	tiny rim, and large 2 sized neck (no. 2030)
	13	tiny rim, a rim top is hollow, and large 3 sized neck * The upper body is minute. (no. 2005)
	14	tiny rim, and X-large sized neck (no. 1807)
	15	leaned outwards rim, but a top is upright, and small-middle sized neck (no. 1339) * relatively non-swollen body
	16	leaned outwards rim, but a top is flat and extends both inwards and outwards, and small-middle sized neck (no. 654) * relatively swollen body
	17	leaned outwards rim, and small-middle sized neck (no. 380, 1511) * relatively non-swollen body
	18	upstanding rim, and large 1 sized neck (no. 765) * relatively non-swollen body
	19	leaned outwards rim, and large 1 sized neck (no. 1318) * relatively swollen body
	20	curved outwards rim, and small-middle sized neck (no. 2128)
Curved	1	upstanding and leaned outwards rim, and small sized neck (no. 1864, 506, 681, 651)
	2	upstanding and leaned outwards rim, and small-middle sized neck * including ⑪b (no.612)
	3	upstanding rim, and small-middle sized neck (no. 1252, 642, 1513, 1791, 656)
	4	upstanding rim, but a top is hollow, and small-middle sized neck (no. 646)
	5	upstanding rim, but a top extends both inwards and outwards, and small-middle sized neck (no. 1505, 657)
	6	upstanding and leaned outwards rim, and middle sized neck (no.857)
	7	upstanding and leaned outwards rim, and middle-large sized neck
	8	upstanding and leaned outwards rim, and large 1 sized neck (no. 755, 1001)
	9	upstanding and leaned outwards rim, and large 2 sized neck (no. 1282)
	10	upstanding and leaned outwards rim, and large 3 sized neck (no. 1676)
	11	upstanding and bent outwards rim, and small-middle sized neck
	12	upstanding outwards and bent inwards rim (no. 1501)
	13	upstanding and bent outwards rim, and middle-large sized neck (no. 1970, 546)
	14	bent outwards rim, and large 1 sized neck (no. 431)
	15	curved outwards rim, and small-middle sized neck
	16	curved outwards rim, and middle sized neck (no. 1231, 1622)
	17	curved outwards rim, and middle-large sized neck
	18	curved outwards rim, and large 1 sized neck (no. 1007)
	19	curved outwards rim, and large 2 sized neck (no. 608)

Table 5.46 The relation between the ceramic types in categories ⑩ and ⑪ and stratigraphic phases (1)

class	Ceramic No.	phase
HS (Up-1)	1224	I
HS (Up-2)	1270	G
HS (Cu-6)	327	D
HS (Cu-5)	1260	A
Cu (Up-3)	1274	I
Cu (Up-8)	1298	H
Cu (Cu-2)	354	F
Cu (Cu-2)	1287	E
Cu (Cu-6)	437	D
LC (Cu-5)	1299	J
LC (Cu-5)	301	I
LC (Up-3)	1232	I
LC (Up-11)	1249	I
LC (Up-12)	1283	I
LC (Cu-11)	1295	I
LC (Cu-6)	1281	H
LC (Cu-5)	1291	H
LC (Cu-5)	1265	G
LC (Cu-5)	430	F
LC (Up-7)	259	E
LC (Cu-11)	1228	E
LC (Cu-11)	1266	E
LC (Up-7)	1269	E
LC (Cu-5)	1294	E
LC (Cu-11)	256	D
LC (Cu-5)	427	D
LC (Up-7)	1246	D
LC (Up-5)	157	C
LC (Cu-5)	388	C
LC (Up-7)	1213	C
LC (Cu-2)	1311	C
LC (Cu-11)	1317	C
LC (Cu-6)	1322	C
LC (Cu-5)	1256	A
LC (Cu-5)	1258	A
LC (Cu-5)	1262	A
St (Cu-16)	1231	K
St (Up-3)	1273	K
St (Cu-17)	1236	I
St (Up-3)	1238	I
St (Up-10)	1239	I
St (Up-1)	1242	I
St (Cu-15)	1251	I
St (Up-4)	1279	I
St (Cu-17)	1278	H
St (Up-7)	1280	H
St (Cu-2)	1275	G
St (Up-4)	429	F
St (Cu-17)	1233	F
St (Up-3)	349	E - F
St (Cu-2)	449	E
St (Cu-9)	1282	E
St (Cu-11)	431	D
St (Cu-11)	438	D
St (Cu-7)	1293	D
St (Up-17)	380	C
St (Cu-2)	1272	C
St (Up-19)	1318	C
St (Cu-15)	1323	C
St (Cu-2)	1257	A
St (Cu-7)	1296	A
St (Up-11)	1297	A

phase	Ceramic No.	class
K	1231	St (Cu-16)
K	1273	St (Up-3)
J	1299	LC (Cu-5)
I	1224	HS (Up-1)
I	1274	Cu (Up-3)
I	301	LC (Cu-5)
I	1232	LC (Up-3)
I	1249	LC (Up-11)
I	1283	LC (Up-12)
I	1295	LC (Cu-11)
I	1236	St (Cu-17)
I	1238	St (Up-3)
I	1239	St (Up-10)
I	1242	St (Up-1)
I	1251	St (Cu-15)
I	1279	St (Up-4)
H	1298	Cu (Up-8)
H	1281	LC (Cu-6)
H	1291	LC (Cu-5)
H	1278	St (Cu-17)
H	1280	St (Up-7)
G	1270	HS (Up-2)
G	1265	LC (Cu-5)
G	1275	St (Cu-2)
F	354	Cu (Cu-2)
F	430	LC (Cu-5)
F	429	St (Up-4)
F	1233	St (Cu-17)
E - F	349	St (Up-3)
E	1287	Cu (Cu-2)
E	259	LC (Up-7)
E	1228	LC (Cu-11)
E	1266	LC (Cu-11)
E	1269	LC (Up-7)
E	1294	LC (Cu-5)
E	449	St (Cu-2)
E	1282	St (Cu-9)
D	327	HS (Cu-6)
D	437	Cu (Cu-6)
D	256	LC (Cu-11)
D	427	LC (Cu-5)
D	1246	LC (Up-7)
D	431	St (Cu-11)
D	438	St (Cu-11)
D	1293	St (Cu-7)
C	157	LC (Up-5)
C	388	LC (Cu-5)
C	1213	LC (Up-7)
C	1311	LC (Cu-2)
C	1317	LC (Cu-11)
C	1322	LC (Cu-6)
C	380	St (Up-17)
C	1272	St (Cu-2)
C	1318	St (Up-19)
C	1323	St (Cu-15)
A	1260	HS (Cu-5)
A	1256	LC (Cu-5)
A	1258	LC (Cu-5)
A	1262	LC (Cu-5)
A	1257	St (Cu-2)
A	1296	St (Cu-7)
A	1297	St (Up-11)

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class	Ceramic No.	layer
St (Up-4)	2201	2
St (Up-3)	2202	2
St (Up-4)	2205	2
St (Cu-7)	2206	2
LC (Cu-5)	2208	2

layer	Ceramic No.	class
2	2201	St (Up-4)
2	2202	St (Up-3)
2	2205	St (Up-4)
2	2206	St (Cu-7)
2	2208	LC (Cu-5)

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class	Ceramic No.	layer
St (Up-4)	2210	2
LC (Up-7)	2226	16

layer	Ceramic No.	class
2	2210	St (Up-4)
16	2226	LC (Up-7)

Table 5.47 The relation between the ceramic types in categories ⑩ and ⑪ and stratigraphic phases (2)

class	Ceramic No.	Phase	N/M (%)	Neck D (1/3cm)	Original Classification
HS (Up-1)	1224	I	81.4	3.5	jd4.5 (L2)
HS (Up-2)	1270	G	81.6	4	bc3.3 (L)
HS (Cu-6)	327	D	79.6	7.8	jd4.5 (L2)
HS (Cu-5)	1260	A	85.7	7.2	jc1 (E-M)

class	Ceramic No.	Phase	N/M (%)	Neck D (1/3cm)	Original Classification
Cu (Up-3)	1274	I	89.7	10.4	bc3.51 (L)
Cu (Up-8)	1298	H	78.4	5.8	je3.1 (L1)
Cu (Cu-2)	354	F	87.9	5.8	bd5.1 (L2)
Cu(Cu-2)	1287	E	81	5.1	je4.2 (L2)
Cu (Cu-6)	437	D	83.5	7.1	bd2.11 (L1)

Class	Ceramic No.	Phase	N/M (%)	Neck D (1/3cm)	Original Classification
LC (Up-3)	1232	I	91.8	4.5	bc3.2 (L)
LC (Up-5)	157	C	98.8	7.9	bc3.42 (L)
LC (Up-7)	259	E	85	4.9	bc3.3 (L)
LC (Up-7)	1269	E	97.8	4.5	pb1.1 (M-L1)
LC (Up-7)	1246	D	88.7	5.4	bc3.3 (L)
LC (Up-7)	1213	C	89.8	5.3	jc2 (M-L1)
LC (Up-11)	1249	I	96.7	11.8	bc3.42 (L)
LC (Up-12)	1283	I	89.1	5.7	bd5.1 (L2)
LC (Cu-2)	1311	C	83.8	3.1	jb1 (E)
LC (Cu-5)	1299	J	82.5	6.6	jc2 (M-L1)
LC (Cu-5)	301	I	94	4.7	bd1.3 (L1)
LC (Cu-5)	1291	H	90.9	5	bd3.11 (L1)
LC (Cu-5)	1265	G	92.3	7.2	bd3.11 (L1)
LC (Cu-5)	430	F	97.4	3.8	jc2 (M-L1)
LC (Cu-5)	1294	E	88.7	6.3	bd3.11 (L1)
LC (Cu-5)	427	D	79.6	3.9	bd4.2 (L1-L2)
LC (Cu-5)	388	C	87.1	6.1	bd3.11 (L1)
LC (Cu-5)	1256	A	90.9	6	bd3.11 (L1)
LC (Cu-5)	1258	A	87.3	4.8	jb2-4 (E)
LC (Cu-5)	1262	A	83.3	6	jb2-4 (E)
LC (Cu-6)	1281	H	79.2	5.7	jd4.12 (L1-L2)
LC(Cu-6)	1322	C	90.2	5.5	bd2.10 (L1)
LC(Cu-11)	1295	I	85	8.5	bd1.1 (L1)
LC(Cu-11)	1228	E	86.2	5	bd2.2 (L1)
LC (Cu-11)	1266	E	87.2	7.5	bd2.10 (L1)
LC(Cu-11)	256	D	79	4.9	bd3.2 (L1)
LC(Cu-11)	1317	C	94.4	5.1	bd4.2 (L1-L2)

Class	Ceramic No.	Phase	N/M (%)	Neck D (1/3cm)	Original Classification
St (Up-1)	1242	I	86.8	3.3	bc3.51 (L)
St (Up-3)	1273	K	88.9	4	bd5.3 (L2)
St(Up-3)	1238	I	91.2	5.2	bc3.12 (L)
St(Up-3)	349	E - F	88.6	3.9	jc3.2 (M-L2)
St (Up-4)	1279	I	86.5	4.5	jd4.21(L1)
St(Up-4)	429	F	88.1	5.2	jd4.21(L1)
St (Up-7)	1280	H	87.3	6.9	jc3.2 (M-L2)
St (Up-10)	1239	I	98.8	7.9	lids
St (Up-17)	380	C	98.3	5.8	pb1.1(E-L1)
St (Up-19)	1318	C	83.3	9.5	jb1 (E)
St (Up-11)	1297	A	88.5	9.2	jc2 (M-L1)
St(Cu-2)	1275	G	95.5	4.2	bd3.11 (L1)
St (Cu-2)	449	E	93.9	5.6	bd3.11 (L1)
St(Cu-2)	1272	C	91.9	5.7	bd4.4 (L1-L2)
St(Cu-2)	1257	A	89.2	5.8	jd4.21 (L1)
St (Cu-7)	1293	D	94.3	8.2	bc3.51 (L)
St(Cu-7)	1296	A	94.3	8.3	bd1.3 (L1)
St (Cu-9)	1282	E	93.4	9.9	jd4.21 (L1-L2)
St (Cu-11)	438	D	88	4.4	bd1.2 (L1)
St (Cu-14)	431	D	96	9.5	bd1.1 (L1)
St (Cu-15)	1251	I	98.1	5.3	bd2.11 (L1)
St(Cu-15)	1323	C	83.3	5.5	bd2.2 (L1)
St (Cu-16)	1231	K	94.4	6.7	bd4.4 (L1-L2)
St (Cu-17)	1236	I	92	8.1	bd4.1 (L1-L2)
St(Cu-17)	1278	H	89.4	8.4	jd4.22 (L1)
St(Cu-17)	1233	F	93.9	7.7	bd2.10 (L1)

Table 5.48 The relation between the ceramic types in categories ⑩ and ⑪ and stratigraphic phases (3)

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class	Ceramic No.	layer	N/M (%)	Neck D (1/3cm)	Original Classification
St (Up-3)	2202	2	82.1	4.6	jd4.21 (L1)
St (Up-4)	2201	2	83	3.9	jd4.21 (L1)
	2205	2	86.7	3.9	jd4.21 (L1)
St (Cu-7)	2206	2	97.2	7	bd4.4 (L1-L2)
LC (Cu-5)	2208	2	80.9	3.8	jd4.3 (L1-L2)

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class	Ceramic No.	layer	N/M (%)	Neck D (1/3cm)	Original Classification
St (Up-4)	2210	2	92.2	5.9	bd5.1 (L2)
LC (Up-7)	2226	16	88.3	5.3	jc4.1 (L2)

Table 5.49 Stratigraphic information on well-stratified ceramic groups from Hengistbury Head: categories ⑩ and ⑪

Key Grup No. (period)	Phase	Illustration No.	Ratio: N/M	Neck D.	Max D.	Ceramic Type
KG14(L2)	F	110	78.6	7.7	9.8	HS (Cu-7)
KG14(L2)	F	112	82.8	4.8	5.8	Cu (Cu-5)
KG14(L2)	F	137	83.3	6.5	7.8	LC (Cu-5)
KG14(L2)	F	133	87	8	9.2	LC (Up-7)
KG14(L2)	F	136	87	4	4.6	St (Up-4)
KG14(L2)	F	116	88.1	5.2	5.9	LC (Up-7)
KG14(L2)	F	113	89.3	5	5.6	LC (Cu-6)
KG14(L2)	F	121	92.9	3.9	4.2	St (Up-4)
KG14(L2)	F	115	93.6	4.4	4.7	St (Up-17)
KG14(L2)	F	122	96.4	5.3	5.5	St (Up-3)
KG13(L2)		1306	77.1	5.4	7	Cu (Up-5)
KG13(L2)		1307	80.7	4.6	5.7	LC (Up-7)
KG13(L2)		1315	81	5.1	6.3	Cu (Cu-5)
KG13(L2)		1331	86.8	4.6	5.3	LC (Up-7)
KG13(L2)		1335	97.5	3.9	4	St (Up-6)
KG11(L2)	-	1218	82.9	6.3	7.6	Cu (Up-11)
KG11(L2)	-	1341	85.4	3.5	4.1	LC (Cu-12)
KG10(L2)	-	219	79.6	3.9	4.9	St (Cu-11)
KG12(L2)	D	1342	80.3	4.9	6.1	LC (Up-12)
KG12(L2)	D	1263	91.8	4.5	4.9	St (Up-21)
KG9(L2)	D	89	79	6.4	8.1	St (Cu-15)
KG9(L2)	D	84	80	5.2	6.5	St (Up-4)
KG9(L2)	D	104	88.3	5.3	6	St (Cu-2)
KG8(L2)	D	77	78.8	5.3	6.6	LC (Up-7)
KG8(L2)	D	76	81	4.7	5.8	LC (Up-7)
KG7(L2)	D	47	84.5	6	7.1	LC (Up-7)
KG7(L2)	D	61	86.6	8.4	9.7	LC (Up-15)
KG7(L2)	D	62	87.1	5.4	6.2	Cu (Cu-2)
KG7(L2)	D	57	91.2	5.2	5.7	St (Up-4)
KG6(L1)	C	420	81.3	7.4	9.1	HS (Up-5)
KG6(L1)	C	364	82.5	3.3	4	HS (Up-6)
KG6(L1)	C	373	84.7	9.4	11.1	Cu (Cu-9)
KG6(L1)	C	422	85.3	6.4	7.5	St (Cu-2)
KG6(L1)	C	372	87.7	5	5.7	LC (Cu-11)
KG6(L1)	C	361	90.3	5.6	6.2	LC (Cu-11)
KG6(L1)	C	198	90.5	5.7	6.3	St (Cu-15)
KG6(L1)	C	368	90.7	6.8	7.5	St (Cu-16)
KG6(L1)	C	357	90.9	8	8.8	St (Up-8)
KG6(L1)	C	367	91.4	6.4	7	St (Cu-2)
KG6(L1)	C	407	92.5	4.9	5.3	St (Cu-15)
KG6(L1)	C	359	92.8	7.7	8.3	Cu (Up-2)
KG6(L1)	C	358	93.6	7.3	7.8	St (Up-9)
KG6(L1)	C	369	93.9	7.7	8.2	St (Cu-7)
KG6(L1)	C	360	96.1	4.9	5.1	St (Cu-2)
KG5(M/L1)	-	3071	80.7	4.6	5.7	LC (Up-3)
KG5(M/L1)	-	3067	82.1	3.2	3.9	HS (Cu-8)
KG5(M/L1)	-	3064	87	4.7	5.4	HS (Up-3)
KG4(M/L1) a (mid2)	-	3058	88.7	8.6	9.7	LC (Cu-8)
KG4(M/L1) a (mid2)	-	3059	92.9	9.1	9.8	Cu (Cu-10)
KG4(M/L1) a (mid2)	-	3074	96.4	5.4	5.6	St (Cu-11)
KG4(M/L1) b (mid1)	-	3052	81.9	5.9	7.2	St (Cu-2)
KG4(M/L1) b (mid1)	-	3021	85.7	4.2	4.9	St (Up-4)
KG4(M/L1) b (mid1)	-	3020	88.5	4.6	5.2	St (Up-4)
KG4(M/L1) b (mid1)	-	3022	95.5	6.3	6.6	St (Cu-15)
KG3(M)	-	2222	94.5	5.2	5.5	St ((Up-3)
KG3(M)	-	2231	95.9	4.7	4.9	St ((Up-3)
KG1(E)	-	1309	90.8	5.9	6.5	LC (Up-16)
KG1(E)	-	1300	91.8	5.6	6.1	LC (Cu-5)
KG1(E)	-	1302	92.3	9.6	10.4	LC (Up-17)
KG1(E)	-	1326	92.9	6.5	7	LC (Cu-6)
KG1(E)	-	1310	93.4	5.7	6.1	LC (Cu-5)

Table 5.50 New ceramic types of well-stratified groups from Hengistbury Head: categories ⑩ to ⑪

Key Group	Period	Category/Size	(Upper) Body	Neck to rim	Ceramic No.
1	EIA	⑩SM	loosely curved	upstanding, but curves somewhat inwards	1309
		⑩L(2)	loosely curved	upstanding, but leans outwards, and the top extends both inwards and outwards	1302
4	M/LIA	⑩L-XL	curved	curved and upstanding, and bend outwards	3059 (mid2)
5	M/LIA	⑩S	high-shouldered	curved and upstanding.	3067
6	LIA1	⑩ML	high-shouldered	upstanding, but leans outwards	420
		⑩S	high-shouldered	upstanding, but leans outwards	364
		⑩L-XL	curved	curved outwards	373
7	LIA2	⑩ML	loosely curved	curved and upstanding outwards	61
11	LIA2	⑩ML	curved	upstanding, but leans outwards	1218
		⑩S	loosely curved	curved, upstanding, and bend outwards	1341
12	LIA2	⑩SM	straight	upstanding, but curves somewhat inwards	1263
14	LIA2	⑩L	high-shouldered	curved and upstanding, but leans	110

* '**Phase**' is based on the information on stratigraphy presented in the site report. * mid: middle layer in a context

Table 5.51 The stratified Iron Age ceramics in categories ① to ⑨ (left) and ⑩ and ⑪ (right)

Period	Phase	Ce. No.	Ori. Class
Iron Age	D	1243	Miscellaneous
L2	D	333	JC4.2
L1-L2	D	1229	JD4.3
L1-L2	C	433	JD4.12
M-L1	C	1221	BD6.0
M-L1	A	1254	JC2.0

Period	Phase	Ce. No.	Ori. Class
L2	D	327	JD4.5
L	D	1246	BC3.3
L	D	1293	BC3.51
L1-L2	D	427	BD4.2
L1	D	437	BD2.11
L1	D	256	BD3.2
L1	D	431	BD1.1
L1	D	438	BD1.2
L	C	157	BC3.42
L1-L2	C	1317	BD4.2
L1-L2	C	1272	BD4.4
L1	C	388	BD3.11
L1	C	1322	BD2.10
L1	C	1323	BD2.2
M-L1	C	1213	JC2
M-L1	C	380	PB1.1
E	C	1311	JB1
E	C	1318	JB1
L1	A	1256	BD3.11
L1	A	1257	JD4.21
L1	A	1296	BD1.3
M-L1	A	1297	JC2
E-M	A	1260	JC1
E	A	1258	JB2-4
E	A	1262	JB2-4

Table 5.52 The stratified Iron Age ceramics in categories ① to ⑨ (left) and ⑩ and ⑪ (right) in well-stratified groups

Period	Phase	Ce. No.	Ori. Class
L2	D	88	JD4.4
L2	D	79	JD4.4
L2	D	82	JD4.4
L2	D	74	JD4.4
L2	D	100	JD4.4
L1-L2	C	440	JD4.3
L1-L2	C	411	JD4.3
L1	C	384	JE1.2
M-L2	C	408	JC3.1

Period	Phase	Ce. No.	Ori. Class
L2	D	1342	JD4.42
L2	D	1263	BD7.0
L2	D	61	JD4.42
L2	D	62	JD4.42
M-L2	D	77	JC3.1
L1-L2	D	89	JD4.22
L	D	76	BC3.2
L	D	47	BC3.0
L	D	57	BC3.51
L1	D	104	BD3.0
M-L1	D	84	JC2.0
L1-L2	C	422	JD4.21
L1-L2	C	361	BD4.2
L1-L2	C	407	JD4.22
L1-L2	C	359	BD4.2
L1-L2	C	369	BD4.0
L1-L2	C	360	BD4.4
L	C	364	BC3.3
L	C	357	BC3.6
L	C	358	BC3.51
L1	C	373	BD2.1
L1	C	372	BD2.2
L1	C	198	BD3.2
L1	C	368	BD3.2
L1	C	367	BD3.2
M-L1	C	420	JD3.1

Table 5.53 Ceramic types in categories ④ to ⑨

Surface	Body	Rim	other attributes
Plain	Rounded	short & minimal	
Plain	Rounded	short & minimal	horizontal handle
Plain	Rounded	short & minimal	vertical handle
Plain	Rounded	middle	
Plain	Rounded	long	
Decorative	Rounded	short & minimal	motifs (high-shouldered)
Decorative	Rounded	middle & short	motifs (linear roulettes)
Decorative	Rounded	middle	plural cordons
Decorative	Rounded	middle	single cordon (motifs, groove)
Decorative	Rounded	middle	pairs of grooves
Decorative	Rounded	middle	grooves
Decorative	Rounded	long	motifs (dots & grooves)
Decorative	Rounded	long	motifs (short shoulder)
Decorative	Inflectional	middle	fingertip dots

Table 5.54 Ceramic types in categories ⑩ and ⑪

Surface	Body	Rim	other attributes
Plain	Rounded	minimal	* bowl
Plain	Rounded	minimal	rough surface
Plain	Rounded	minimal	
Plain	Rounded	minimal	hollow rim top
Plain	Rounded	minimal	horizontal handle
Plain	Rounded	short & minimal	
Plain	Rounded	short & minimal	shigh-shouldered
Plain	Rounded	short & minimal	straight
Plain	Rounded	short	
Plain	Rounded	middle to minimal	shallow
Plain	Rounded	middle & short	deep
Plain	Rounded	middle	
Plain	Rounded	middle	short shoulder
Plain	Rounded	long	
Plain	Inflectional	minimal	shallow
Plain	Inflectional	minimal	deep
Plain	Inflectional	minimal	vertical upper body
Plain	Inflectional	minimal	* bowl
Plain	Inflectional	short	vertical neck (graphite coated)
Plain	Inflectional	short & minimal	shallow
Plain	Inflectional	short & minimal	deep
Plain	Inflectional	middle	vertical upper body
Plain	Inflectional	middle	short shoulder
Decorative	Rounded	minimal	
Decorative	Rounded	minimal	linear motifs
Decorative	Rounded	minimal	1 cordon
Decorative	Rounded	middle &short	1 groove (motifs)
Decorative	Rounded	middle &short	1 groove (shallow)
Decorative	Rounded	middle &short	1 groove (deep)
Decorative	Rounded	middle &short	1 groove
Decorative	Rounded	middle &short	1 groove (graphite coated)
Decorative	Rounded	middle &short	pairs of 2 grooves
Decorative	Rounded	short	linear grooves
Decorative	Rounded	short	linear roulettes
Decorative	Rounded	short	grooves
Decorative	Rounded	short	1cordon & 1 groove
Decorative	Rounded	middle	2grooves
Decorative	Rounded	middle	2 grooves (deep)
Decorative	Rounded	long & middle	linear motifs
Decorative	Rounded	long & middle	1 cordon (shallow)
Decorative	Rounded	long & middle	1 cordon (deep)
Decorative	Rounded	long & middle	2 grooves
Decorative	Rounded	long & middle	2 cordons (motifs)
Decorative	Inflectional	minimal	grooves
Decorative	Inflectional	short & minimal	1 cordon (shallow)
Decorative	Inflectional	short & minimal	1 cordon (deep)
Decorative	Inflectional	short	2 grooves
Decorative	Inflectional	short	1 groove (shallow)
Decorative	Inflectional	short	grooves
Decorative	Inflectional	middle to minimal	1 cordon
Decorative	Inflectional	middle to minimal	1 cordon (motifs)
Decorative	Inflectional	middle & short	roughened strip
Decorative	Inflectional	middle & short	dots & grooves
Decorative	Inflectional	middle	fingertip dots
Decorative	Inflectional	middle	2 grooves
Decorative	Inflectional	middle	2 grooves (shallow)
Decorative	Inflectional	middle	2 grooves (deep)
Decorative	Inflectional	middle	unclear lines
Decorative	Inflectional	long to short	2 cordons

Table 6.1 The basic information for typological classification of vessels from volume 2 of the Danebury report (1)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
407	JB1.2	5.6	6.3	88.9	pit 104	6	1-3
707	JB1.2	5.7	7	81.4	pit 1021	8	1-3
750	BB1.1	4.9	6.4	76.6	-	314	3
378	BB3.1	5	5.4	92.6	pit 230	3	3
573	JA1.1	12.6	15	84	pit 658	2, 4	3
577	JB1.1	9.3	10.1	92.1	pit 674	3, 4	3/8
633	BA2.1	5.5	5.9	93.2	pit 857/860	1, 2, 3 / 5 / 310	3
640	JB2.2	7.2	9.1	79.1	-	310	3
685	BB1.1	6.5	7.7	84.4	pit 868	2	3
698	BB1.1	4.2	4.9	85.7	pit 944	1	3
442	BB3.1	6.4	7.1	90.1	pit 44	1, 3, 4, 6	3
443	BA2.2	3.6	4.4	81.8	pit 44	5	3
448	JB3.0	7.9	9.6	82.3	pit 44	2	3
374	BA2.3	8.6	9.2	93.5	pit 238	3	3
376	JB2.2	5.1	5.9	86.4	pit 238	3	3
678	JB3	6.5	7.8	83.3	pit 238	3	3
591	JB3.0	7.1	10	71	pit 783	3, 4	3
592	JB2.3	5	5.3	94.3	pit 783	3, 4	3
593	JB2.3	3.3	3.6	91.7	pit 783	3, 4	3
594	JB2.2	5.9	7.3	80.8	pit 783	3, 4	3
632	BA2.1	3.1	3.7	83.8	pit 857	1, 2	3
634	JB2.2	4.2	4.4	95.5	pit 857	3	3
692	JB2.2	3.8	4.5	84.4	pit 906	3	3
694	JB2.2	5.2	5.8	89.7	pit 906	3	3
734	BB1.1	4.4	5.4	81.5	pit 1133	2	3
735	BB1.1	5.6	5.9	94.9	pit 1133	2	3
736	JB2.1	8.4	9.2	91.3	pit 1133	2	3
737	JB1.2	6.4	7.2	88.9	pit 1133	2	3
390	BA1.2	5.5	5.6	98.2	pit 173	1	1-4
122	JB3.1	7.8	8.7	89.7	-	43	3-4
495	JB3.1	6.5	8.6	75.6	-	45	3-4
171	JB2.2	6.5	7.4	87.8	pit 15 / pit 16	7 / 35	3-4
363	BA2.3	6.3	6.9	91.3	pit 216	4	3-4
409	JB3.1	7.3	8.8	83	pit 103	2	3-4
425	JB2.2	6.5	7	92.9	pit 96	2	3-4
454	JB3.1	8.9	9.8	90.8	pit 34	2	3-4
455	JB2.2	7.6	8.3	91.6	pit 33	2	3-4
552	BA2.2	5.8	6.2	93.5	pit 583	1, 2	3-4
669	BA2.3	4.8	5.4	88.9	pit 327	4	3-4
682	JB2.2	4.4	5	88	pit 861	1, 2	3-4
689	BA2.3	5.3	6	88.3	pit 900	2	3-4
708	JB2.3	4.1	4.5	91.1	pit 1030	6	3-4
739	JB2.3	4.1	5	82	pit 1135	4	3-4
740	BA2.2	4.8	5.3	90.6	pit 1145	4	3-4
527	JB1.2	5.1	5.8	87.9	pit 325	2	3-4
528	BB1.1	5.6	7	80	pit 325	2	3-4
533	JB2.1	8	9.9	80.8	pit 97	3	3-4
534	JB3	8.3	10.2	81.4	pit 97	3	3-4
535	BA2.3	5.8	6	96.7	pit 97	3	3-4
702	BA2.3	6.6	7.4	89.2	pit 972	2	3-4
703	BA2.2	3.5	3.8	92.1	pit 972	3	3-4
81	BA2.3	6.5	7.8	83.3	Hearth	8	4
173	JB2.2	6.7	7.8	85.9	Ritual pit C	10, 12	4
337	JB4.1	7.6	8	95	pit 358	2	4
892	PA2.1	6.9	7.4	93.2	pit 358	2	4
893	PA2.1		5.1		pit 358	2	4
399	JD1.1	4.5	6.4	70.3	pit 117	3	4
400	JB4.1	4.1	5	82	pit 117	unstratified	4
401	JB4.1	3.9	4.1	95.1	pit 117	unstratified	4
402	PA2.1		6		pit 117	unstratified	4
403	JB4.1	7.8	8.8	88.6	pit 117	unstratified	4
542	JB2.1	9.2	10.1	91.1	pit 574	6	4
543	JB2.1	9.1	11.1	82	pit 574	6	4
936	JB4	9	9.3	96.8	pit 574	5	4
547	JB2.2	5.7	6.3	90.5	pit 575	3a	4
938	PA2.1	6.8	7.1	95.8	pit 575	1	4
686	PA1.2	7.2	8	90	pit 873	4	4
687	PA1.1	3.3	4.1	80.5	pit 873	2	4
979	JB4.0	6.1	6.2	98.4	pit 873	1	4

Table 6.2 The basic information for typological classification of vessels from volume 2 of the Danebury report (2)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
710	BA2.2	6.3	7.4	85.1	pit 1033	4	4
711	JB2.2	7.5	7.9	94.9	pit 1033	4	4
712	JB2.2	5.1	5.9	86.4	pit 1033	3, 4, 6	4
713	JB1.2	7.4	8.2	90.2	pit 1033	8	4
995	BA2.3(?)	5.1	6	85	pit 1033	2	4
997	JB2.2	5.1	5.8	87.9	pit 1033	3	4
435	PA1.1	4.4	5.1	86.3	pit 58 & pit 57	3 / 2	3-5
667	PA3.1	2.3	2.4	95.8	pit 683	1	3-5
670	PA3.1	3.3	3.5	94.3	pit 183	10	3-5
394	DB3.1	6.6	6.9	95.7	pit 153	1	4-5
295	JC1.1	10.4	10.9	95.4	pit 19	1	5
296	JC1.1	6.8	9.1	74.7	pit 19	1	5
297	JC2.2	7	8.5	82.4	pit 19	5	5
298	PA1.1		5.5		pit 19	6	5
302	JC2.2/3	6.5	7.2	90.3	pit 19	4	5
615	JD2.0	4.3	5.7	75.4	pit 19	6	5
451	BA2.3	7.1	8.5	83.5	pit 37	1, 2	4-6
450	JD2.0	6.5	9.8	66.3	pit 37	4	4-6
452	PA2.1	6	6.1	98.4	pit 37	2	4-6
474	JD1.1	4.9	6.9	71	pit28 & pit 29	4, 5 / 6	4-6
566	PB1.1	4	4.3	93	pit 657	4	5-6
568	JC2.3	5.5	5.8	94.8	pit 657	5	5-6
569	PA2.1	5.4	5.6	96.4	pit 657	5	5-6
570	JB4.1	7.1	7.7	92.2	pit 657	7	5-6
571	JC1.1	8.7	12.4	70.2	pit 657	7	5-6
572	JD2.1	3.9	5.5	70.9	pit 657	8	5-6
1043	JB3.0	7	7.5	93.3	pit 657	7	5-6
1046	JC2.1/2	7	8.9	78.7	pit 657	7	5-6
1047	JB4.0	7.6	9	84.4	pit 657	7	5-6
1052	JC2.2/3	6.3	6.9	91.3	pit 657	1	5-6
1055	JB4.0	6.3	6.7	94	pit 657	1	5-6
247	JD1.1	5.8	7.3	79.5	Outer ditch	burning layer	6
396	JB4.1	6.5	7.9	82.3	pit 133	1, 2	3-7
397	JB4.1	5.8	6.5	89.2	pit 127	2	3-7
170	BC2.1	3.7	4.3	86	pit 18	24	4-7
391	BC1.1	5.5	6.2	88.7	pit 169	3	4-7
393	BC1.1	4.6	4.7	97.9	pit 158	5	4-7
436	BC2.1	4.4	5.6	78.6	pit 57	1	4-7
499	BC2.1	4.7	5	94	pit 488	4	4-7
561	BC2.1	4	4.5	88.9	pit 627	1	4-7
587	BC1.1	5.5	6	91.7	pit 712	4	4-7
646	DA1.2	7.1	7.4		-	13	5-7
749	DA1.1		7.9		-	556	5-7
345	JC2.3	5.6	6.7	83.6	pit 333	3	5-7
356	JC2.3	6.1	7.5	81.3	pit 308	2	5-7
357	JC2.3	7.4	8.9	83.1	pit 301	6	5-7
406	DA1.1	3.8	4.1		pit 106	1	5-7
412	JC2.2	6.7	7.7	87	pit 102	4	5-7
413	JC2.1	6.9	9.8	70.4	pit 102 & posthole 520	3	5-7
459	JC2.3	5.3	7.3	72.6	pit 32	3, 5, 6	5-7
466	JC2.3	4.3	4.8	89.6	pit 29 & pit 30	1, 2	5-7
544	JC2.3	5.1	7.6	67.1	pit 570	2	5-7
580	JC2.2	7	7.5	93.3	pit 677	3	5-7
700	DA1.1	7.3	7.4	98.6	pit 955	2	5-7
701	JC2.1	7.3	8.3	88	pit 967	5	5-7
759	JC2.3	5.4	6.6	81.8	pit 1089	5	5-7
350	DA1.1		7.3		pit 321	1	5-7
353	BC2.1	4.4	5.4	81.5	pit 321	1	5-7
404	PA2.1	5.3	5.8	91.2	pit 115	1, 2	5-7
405	JC2.2	6.7	7.3	91.2	pit 115	-	5-7
472	DA1.1	6.2	6.7		pit 28	7	5-7
473	JC1.1	8.9	12	74.2	pit 28	5	5-7
475	PA2.1		6		pit 28	5	5-7
476	JC1.1	8	8.5	94.1	pit 28	5	5-7
477	PA3.1	3.9	4.1	95.1	pit 28	4	5-7

Table 6.3 The basic information for typological classification of vessels from volume 2 of the Danebury report (3)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
614	PB1.1	5.3	5.4	98.1	-	24	6-7
645	PB1.1		6		feature 14	-	6-7
648	PB1.1		6		-	1	6-7
649	PB1.1		5.4		-	6	6-7
741	PB1.1	5.2	5.3	98.1	-	361	6-7
744	PB1.1	4.6	5.1	90.2	-	403	6-7
745	PB1.1		6		-	414	6-7
746	PB1.1		4		-	523	6-7
747	PB1.1	4.7	4.8	97.9	-	523	6-7
339	PB1.1	6.6	6.7		pit 354	7	6-7
419	PB1.1	6	6.3	95.2	pit 92	5	6-7
424	PB1.1		5.3		pit 78	10	6-7
433	PB1.1	5.2	5.3	98.1	pit 62	6	6-7
434	PB1.1	3.9	4		pit 58	3	6-7
523	JD3.1	5.2	7.5	69.3	pit 452	6, 9	6-7
550	PB1.1	5.2	5.4		pit 584	2	6-7
554	PB1.1		5.4		pit 595	1, 2	6-7
581	JD3.1	5.8	8.6	67.4	pit 684	3	6-7
588	PB1.1	6	6.1	98.4	pit 718	3	6-7
589	PB1.1		5.5		pit 766	4	6-7
630	JD3.2	3.6	5.4	66.7	pit 834	2	6-7
631	PB1.1		7.2		pit 847	4	6-7
664	PB1.1	4.7	4.8	97.9	pit 496	5	6-7
688	PB1.1	5.1	5.2	98.1	pit 893	3	6-7
697	PB1.1	7.9	8.1	97.5	pit 935	1	6-7
704	PB1.1	3.7	3.8	97.4	pit 984	1	6-7
714	PB1.1	4.7	4.8	97.9	pit 1038	11	6-7
718	PB1.1	4.6	4.7		pit 1070	13	6-7
720	JD3.1	4.4	7.2	61.1	pit 1078	10	6-7
758	PB1.1		5		pit 911	6	6-7
50	JC1.1	8	8.9	89.9	pit 6	89	6-7
53	PB1.1		5.4		pit 6	89	6-7
54	PA2.1	5.4	5.6	96.4	pit 4	44, 45	6-7
55	DB2.1		6.8		pit 4	46	6-7
62	JD3.2	5.1	6.4	79.7	pit 4	44	6-7
341	PB1.1		4.9		pit 344	3	6-7
342/344	PB1.1		4.7		pit 344	2, 3	6-7
343	PB1.1		4.8		pit 344	3	6-7
354	PB1.1	5.3	5.4		pit 310	9	6-7
355	JD3.2	4.5	5.6	80.4	pit 310	2	6-7
358	BC2.1	4	4.3	93	pit 286	8	6-7
359	PB1.1	5.3	5.4	98.1	pit 286	8	6-7
365	JC2.3	3.9	4.5	86.7	pit 264	5	6-7
366	PB1.1	4.6	4.7		pit 264	5	6-7
381	JD3.3	3.4	5.2	65.4	pit 226	2	6-7
382	PB1.1		5.4		pit 226	2	6-7
410	JC2.3	4.7	4.9	95.9	pit 110	5	6-7
411	PB1.1	6	6.1	98.4	pit 110	5	6-7
422	PB1.1	4	4.1	97.6	pit 82	8	6-7
423	PA3.1		4.7		pit 82	6, 7	6-7
426	PA1.1	3.9	4.2	92.9	pit 73	4, 5	6-7
427	PB1.1		5.4		pit 73	1	6-7
430	PB1.1	3.9	4.1	95.1	pit 66	1	6-7
431	JC2.1	9.1	9.6	94.8	pit 66	1, 2, 4	6-7
437	PB1.2		2.7		pit 48	5, 6	6-7
439	PB1.1		4		pit 48	1	6-7
461	JD3.1	6	9.3	64.5	pit 30	2	6-7
462	JC2.1	9.8	11.6	84.5	pit 30	2	6-7
463	JC2.2	7.6	8.4	90.5	pit 30	2	6-7
464	PB1.1		5		pit 30	2	6-7
465	PB1.1	3.9	4		pit 30	2	6-7
469	JC2.3	4.4	4.9	89.8	pit 29	6	6-7
470	JD3.1	5.5	7.4	74.3	pit 29	2	6-7
478	PB1.1	4.8	5		pit 27	10	6-7
480	JC2.3	6.7	7.3	91.8	pit 27	7	6-7
481	JC2.1	8	9.2	87	pit 27	6	6-7
482	PA3.1		2.7		pit 27	6	6-7
668	JC2.2	6.7	7.3	91.8	pit 27	10	6-7
510	PB1.1		5.3		pit 287	4	6-7
511	PB1.1		5.7		pit 287	5, 6	6-7
518	PB1.1	4.6	4.7	97.9	pit 166	4	6-7
519	PB1.1		5.4		pit 166	8	6-7
520	PB1.1		6		pit 166	9	6-7

Table 6.4 The basic information for typological classification of vessels from volume 2 of the Danebury report (4)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
551	DA2.1		6		pit 589	7, 9	6-7
586	PB1.1	5.1	5.2	98.1	pit 589	4	6-7
562	JC2.3	4.7	6.5	72.3	pit 628	2	6-7
563	PB1.1	5.3	5.4	98.1	pit 628	3	6-7
565	PB1.1		4.6		pit 652	4	6-7
666	BC2.1	4	4.4	90.9	pit 652	3	6-7
616	PB1.1		5.4		pit 800	3	6-7
618	JC2.3	4.7	5.4	87	pit 800	10	6-7
628	PB1.1	5.3	5.4		pit 823	4	6-7
629	PB1.1		5.7		pit 823	4	6-7
756	PB1.1		4		pit 923	8	6-7
757	JC2.3	3.7	4.5	82.2	pit 923	8	6-7
76	PB1.1	5.3	5.6	94.6	Outer ditch	4	7
87	BC2	3.3	3.9	84.6	Gully	3	7
88	JC2.1	5.4	6.8	79.4	Gully	3	7
89	JC2.3	5.5	6.1	90.2	Gully	3	7
90	JD3.2	4.6	5.6	82.1	Gully	4	7
91	JC2.2	7.8	8.1	96.3	Gully	4	7
92	JC2.2	7.9	8.4	94	Gully	4	7
93	JC2.2	6	6.8	88.2	Gully	4	7
94	JC2.2	7.3	8.2	89	Gully	4	7
95	JC2.3	5.3	5.9	89.8	Gully	4	7
96	PB1.1	5.4	6	90	Gully	4	7
167	JC2.1	12.3	14.3	86	Inner ditch	18	7
168	JC2.3	7.4	8.6	86	Inner ditch	18	7
182	JC2.2	6.6	7.8	84.6	Flint revetment	unknown	7
189	PB1.1		6.7		posthole 44	50	7
555	DB1.1	3	3.1		pit 598	3	7
2	JC2.3	4.8	6.1	78.7	pit 7	1	7
4	JC2.3	4.8	5.7	84.2	pit 7	1	7
6	JC2.3	3.7	5.1	72.5	pit 7	1	7
7	JC2.3	3.4	4.4	77.3	pit 7	1	7
8	JC2.3	5.4	6.4	84.4	pit 7	1	7
9	JC2.3	4.8	6.2	77.4	pit 7	1	7
10	JC2.3	6.1	6.8	89.7	pit 7	1	7
24	PB1.1	5.4	5.9	91.5	pit 7	1	7
29	JC2.1	8	9.5	84.2	pit 7	1	7
30	JC2.1	10.2	11.8	86.4	pit 7	1	7
31	JC2.2	6.2	7.6	81.6	pit 7	7	7
32	JC2.2/3	6.1	6.8	89.7	pit 7	-	7
33	PB1.1		5.4		pit 7	7	7
34	JC2.3	6.2	7.1	87.3	pit 7	7	7
38	PB1.1	4.5	5.1	88.2	pit 7	4	7
172	JD3.1	5.4	9.1	59.3	pit 7	2	7
333	JB2.0	6.4	7	91.4	pit 365	3	7
334	JD3.1	6.6	11.5	57.4	pit 365	4, 5	7
336	JC2.3	4.4	5.2	84.6	pit 365	6	7
680	JC2.3	3.9	4.4	88.6	pit 365	6	7
485	PB1.1		5.4		pit 26	6, 8	7
486	JD3.3	5	6.5	76.9	pit 26	6	7
487	PB1.1		4.7		pit 26	6	7
488	PB1.1	5.3	5.4		pit 26	5	7
489	PB1.1		5.4		pit 26	5	7
490	JC2.3	4	4.7	85.1	pit 26	3, 4, 5	7
491	PB1.1		5.4		pit 26	3	7
493	PB1.1	6.7	6.9	97.1	pit 26	1	7
779	JC2.2	8.8	10.4	84.6	pit 26	4	7
509	BC2.1	2.9	4.2	69	pit 507	3	7
526	PB1.1	6	6.1		pit 507	4	7
665	JD3.3	4.2	6.2	67.7	pit 507	1	7
673	PB1.1		5.6		pit 507	4, 6	7
513	JC2.3	3.4	3.8	89.5	pit 337	3	7
514	PB1.1		6		pit 337	7, 8, 10	7
515	JC2.3	5.4	6.3	85.7	pit 337	10	7
516	PB1.1		6		pit 337	10	7
672	JC2.1	10	10.5	95.2	pit 337	8, 10	7
676	JC2.3	4.2	4.4	95.5	pit 337	8, 10	7
677	JC2.3	4	4.5	88.9	pit 337	10	7
681	PB1.1		5.4		pit 337	6, 10	7
882	JC2.3	5.7	6.9	82.6	pit 337	2	7
883	PB1.1		4.7		pit 337	10	7
891	JC2.1	8.9	10.2	87.3	pit 337	10	7

Table 6.5 The basic information for typological classification of vessels from volume 2 of the Danebury report (5)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
522	JD3.0	4.8	8.1	59.3	pit 414	4	7
675	PB1.1	4.9	5.1	96.1	pit 414	4	7
894	JD3.0	4.7	6.5	72.3	pit 414	4	7
895	PB1.1	6.9	7.1	97.2	pit 414	1	7
538	JD3.1	5	6.3	79.4	pit 23	5	7
539	DB1.0		4.7		pit 23	5	7
540	DA1.1	8	8.4		pit 23	7	7
541	JD3.0	3	4.3	69.8	pit 23	8	7
792	JC2.2	6.9	8	86.3	pit 23	4	7
793	JB4.1	4.9	5.5	89.1	pit 23	4	7
798	PB1.1	6	6.2		pit 23	5	7
804	JC2.2	7.4	8.2	90.2	pit 23	6	7
805	JC2.2	7.2	8.3	86.7	pit 23	7	7
623	JB2.3	3.8	4.8	79.2	pit 813	7, 8	7
625	JC2.3	3.3	4.3	76.7	pit 813	6	7
626	PB1.1		5.3		pit 813	5	7
627	PA1.2	7.3	9.1	80.2	pit 813	9, 10	7
654	JC2.1	8.2	8.9	92.1	pit 813	7, 8	7
655	PB1.1	5.2	5.3		pit 813	5, 7, 8, 9, 10	7
656	PB1.1		5.4		pit 813	6, 7, 8	7
657	JC2.3	5.3	6.2	85.5	pit 813	6, 8	7
658	PB1.1		5.4		pit 813	8	7
965	JC2.2	8.2	8.6	95.3	pit 813	8	7
966	PB1.1		6.3		pit 813	7	7
968	PB1.1		5.6		pit 813	5	7
969	PB1.1	4.1	4.2		pit 813	9	7
973	PB1.1		4.8		pit 813	7	7
674	JC2.3	5.3	6	88.3	pit 231	1	7
846	JC2.1	9.1	11.3	80.5	pit 231	1	7
853	JC2.2	5.6	5.8	96.6	pit 231	5	7
858	PB1.1		5.8		pit 231	4	7
859	JC2.2	8.1	8.6	94.2	pit 231	4	7
861	JC2.3	4.3	5	86	pit 231	4	7
722	JE1/4	7.9	9.6	82.3	pit 1089	1	7-8
723	JC3.2	6.3	6.6	95.5	pit 1089	1	7-8
725	JC3.1	3.3	4.3	76.7	pit 1089	1	7-8
726	JC3.2	5.2	6.2	83.9	pit 1089	1	7-8
727	JC3.1	4.4	4.8	91.7	pit 1089	1	7-8
728	JC3.1	6.6	8	82.5	pit 1089	1	7-8
729	JC3.1	5.3	6.7	79.1	pit 1089	1	7-8
731	JC3.1	4.1	4.6	89.1	pit 1089	1	7-8
759	JC2.1	5.4	6.6	81.8	pit 1089	5	7-8
998	JC1.1	12.7	16.2	78.4	pit 1089	4, 5	7-8
1000	JC2.2	9	10.2	88.2	pit 1089	4, 5	7-8
1001	BC1.1	4.8	6.2	77.4	pit 1089	4, 5	7-8
1002	JC2.1	8.9	9.9	89.9	pit 1089	4	7-8
1003	JC2.1	6.8	7.7	88.3	pit 1089	3	7-8
1010	PB1.1		4.8		pit 1089	2	7-8
1011	JC2.3	6.8	8.6	79.1	pit 1089	3	7-8
1019	JC2.3	5.5	6.9	79.7	pit 1089	2	7-8
651	JC3.2	4.7	5	94	-	3	8
652	JC3.1	3	3.8	78.9	-	3	8
346	JC3.2	5.3	6	88.3	pit 329	10	8
386	JC3.2	5.6	6.5	86.2	pit 209	1	8
398	JC3.2	6	7.2	83.3	pit 121	1	8
521	JD3.0	5.3	7.5	70.7	pit 475	6	8
524	JC2.3	5.4	6.5	83.1	pit 475	6	8
610	JC3.2	6.3	7.3	86.3	pit 475	2	8
671	JC2.1	9.5	10	95	pit 475	6	8
907	JD1.1	4.2	4.4	95.5	pit 475	4	8

Table 6.6　The basic information for typological classification of vessels from volume 2 of the Danebury report (6)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
595	JC3.1	6	6.8	88.2	pit 761	1	8
596	JC3.1	7.4	8.6	86	pit 761	1	8
598	JC3.2	6	6.9	87	pit 761	2	8
599	JC3.1	7.9	9.2	85.9	pit 761	2	8
600	JC3.2	5.7	6.3	90.5	pit 761	2	8
602	JC3.1	6.7	8.4	79.8	pit 761	7	8
603	JC3.1	4	4.8	83.3	pit 761	8	8
604	JC3.2	5.2	5.9	88.1	pit 761	8	8
605	JC3.1	7.2	8.1	88.9	pit 761	3	8
949	JB4.1?	8.6	9.1	94.5	pit 761	11, 12	8
952	PB1.1		7.6		pit 761	2	8
954	PB1.1		4.9		pit 761	8	8
955	PB1.1		5.5		pit 761	4	8
608	JC3.1	5.3	7.3	72.6	pit 680	1	8
609	JC3.1	5.7	7.4	77	pit 680	1	8
606	JE1/4	7	8.3	84.3	pit 702	4	8-9
659	JE1/4	7.8	10.1	77.2	pit 389	1, 3	8-9
684	BD4	6.2	7.4	83.8	pit 862	4	8-9
360	BB1.1	6.1	7	87.1			3
644	BB1.1	6.6	8.2	80.5			3
699	BB1.1	7.1	8.6	82.6			3
709	BB1.1	4.3	4.9	87.8			3
467	DA1.1	7.1	7.4				5-7
579	DA1.1	7.9	8.4				5-7
760	DA1.1	7.7	8				5-7
621	BD2	5.7	7.5	76			8-9

Table 6.7　The basic information for typological classification of vessels from volume 5 of the Danebury report (1)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
1309	BA2.3	4.9	5.6	87.5	-	730	3
1310	BA2.2	6.8	7	97.1	-	730	3
1316	JB1.2	3.7	4	92.5	-	730	3
1322	BB1.1	4.9	5.7	86	-	731	3
1469	BB3.1	6.8	7.4	91.9	-	1944	3
1506	BB1.1	6.4	7.4	86.5	-	2077	3
1258	BB1.1	6.3	6.5	96.9	pit 2405	5	3
1289	JB	5.7	6.6	86.4	pit 1545	1	3
1300	JB3.1	6.7	7	95.7	pit 1930	9	3
1282	BB1.1	3.6	4.4	81.8	pit 1346	5	3
1286	JB1.1	7.5	8.5	88.2	pit 1346	5, 6	3
1306	JB2.2	5.9	6.7	88.1	pit 2200	3	3
1529	JB2.2	11.4	12.5	91.2	pit 2200	2	3
1251	BA1.2	7.3	7.8		-	1152	1-4
1477	-		7.1		-	1997	3-4
1277	BA2.1	9.1	9.3	97.8	-	1742	3-4
1509	BA2.3	3.8	4.1	92.7	-	2080	3-4
1519	BA2.3	3.7	3.9	94.9	-	2082	3-4
1508	BB1.1	7.3	8.9	82	-	2047	3-4
1510	JB1.3	4.1	4.5	91.1	-	2047	3-4
1511	PA2.1	9.5	10.1	94.1	-	2047	3-4
1513	JB3.1	5.1	6.2	82.3	-	2047	3-4
1427	JB2.1	5	6.5	76.9	pit 2573	3	3-4
1517	JB4.1	9.8	10.7	91.6	pit 1529	1	3-4
1338	JB2.2	5.8	6.5	89.2	pit 2498	7	3-4
1339	JB4.1	9.1	9.5	95.8	pit 2498	1	3-4
1472	JD2.0	4	5.8	69	pit 2589	3	3-5
1476	BB1.1	6.4	7.7	83.1	pit 2589	2	3-5
1253	DB3	8	8.1	98.8	-	1207	4-5
1327	PA2.1		5.7		pit 1576	7	4-5
1348	JB4.1	3.2	4	80	pit 2510	7	4-5
1352	PA2.1	6	6.1	98.4	pit 2510	2	4-5
1374	JB4.1	12.8	13	98.5	-	773	5
1375	JC2.2	6	6.2	96.8	-	773	5

Table 6.8 The basic information for typological classification of vessels from volume 5 of the Danebury report (2)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
1262	PA3.1	3.3	3.8	86.8	pit 2427	11	5
1355	JC2.1	6.6	9	73.3	pit 2427	9	5
1332	JC2.0	9	10.9	82.6	pit 1615	2	5
1333	JB4.1	4.3	4.5	95.6	pit 1615	3	5
1334	JB4.1	6.4	7	91.4	pit 1615	3	5
1335	JC2.3	4	5	80	pit 1615	5	5
1360	JC2.2	5.4	6.9	78.3	pit 2530	5	5
1361	JB2.3	5.8	6	96.7	pit 2530	5	5
1363	JC2.2	7	7.7	90.9	pit 2530	5	5
1364	JC2.3	4.6	5.3	86.8	pit 2530	5	5
1365	DB3	5.6	5.8	96.6	pit 2530	5	5
1264	PA2.1		5.4		pit 2478	1	5-6
1383	PA2.1	5.9	6.1	96.7	pit 2478	-	5-6
1384	JB4.1	5.7	5.9	96.6	pit 2478	5	5-6
1386	PB1.1?	3.8	3.9	97.4	pit 2478	1	5-6
1391	PB1.1	7.4	7.9	93.7	pit 2184	3	6
1393	PB1.1	5.3	5.7	93	pit 2184	3	6
1397	PB1.1	4	4.3	93	pit 2184	1	6
1399	PB1.1		6.1		pit 2184	1	6
1401	JC2.3	7.2	9	80	pit 2184	7	6
1402	JC2.2	7.3	7.9	92.4	pit 2426	2	6
1403	PA2.1	6.7	6.8	98.5	pit 2426	5	6
1404	PA2.1	5.4	5.5	98.2	pit 2426	18	6
1405	PA2.1	4.7	4.9	95.9	pit 2426	10	6
1406	PA1.2	5.2	6.1	85.2	pit 2426	9, 10	6
1407	PA1.2	6	6.4	93.8	pit 2426	18	6
1408	PA1.2	6	6.2	96.8	pit 2426	5	6
1410	PB1.1	5.4	5.6	96.4	pit 2426	7	6
1414	PB1.1	6.7	6.8	98.5	pit 2531	2	6
1415	PB1.1	4	4.2	95.2	pit 2531	3	6
1418	JC2.3	4	4.7	85.1	pit 2531	2, 3	6
1419	JB2.3	3.4	3.6	94.4	pit 2363	1	6
1420	PA2.1	6.5	8	81.3	pit 2363	2, 3	6
1421	PB1.1		6.1		pit 2363	5	6
1422	JC1.1	10.4	12	86.7	pit 2363	2, 3	6
1423	JC2.0	7	7.7	90.9	pit 2363	2, 3	6
1424	JB2.3	4.6	5.7	80.7	pit 2363	2, 3	6
1254	JB4.1	6.9	7.4	93.2	pit 2480	3	3-7
1271	BC1.1	3.9	4.1	95.1	-	1573	4-7
1249	BC2.1	3.8	4.4	86.4	pit 2271	11	4-7
1429	BC2.1	4.2	4.6	91.3	pit 2577	4	4-7
1458	BC2.1	2.8	3.1	90.3	pit 2273	4	4-7
1521	BC2.2	4.2	5	84	pit 2612	3	4-7
1263	JC2.2	9.1	9.5	95.8	pit 2315	5	5-7
1259	JC2.3	4.5	5.5	81.8	pit 2346	4, 7, 8	5-7
1275	JC2.3	4	4.4	90.9	pit 2575	4	5-7
1270	PB1.1		6.2		gully 316	2	6-7
1100	PB1.2	3.5	3.9	89.7	pit 2032	6	6-7
1250	PB1.2		4.2		pit 2366	3, 4	6-7
1255	PB1.1		6		pit 2345	4	6-7
1257	PB1.1	5.9	6		pit 2353	8	6-7
1274	PB1.1		5		pit 2575	4	6-7
1459	JD3.2	3.6	5.4	66.7	pit 2248	3	6-7
1468	PB1.1	7.4	7.5	98.7	pit 2362	6	6-7
1273	BD6	3	3.9	76.9	-	1864	7
1120	BC3.2	4.6	4.8	95.8	pit 1940	8B	7
1156	JC2.3	4.7	5.4	87	pit 1940	3	7
1158	PB1.1		6.1		pit 1940	8	7
1159	JC2.3	6.6	7.8	84.6	pit 1940	3	7
1160	PB1.1		4.6		pit 1940	3	7
1199	JC2.3	4	4.4	90.9	pit 1940	4	7
1432	PB1.1		6.7		pit 2444	4	7
1437	PB1.1	5.2	5.4		pit 2444	1, 3	7
1439	PB1.1		4.7		pit 2444	1, 6	7
1440	PB1.1	5.3	5.4		pit 2444	6	7
1442	PB1.1	6.9	7		pit 2444	1, 2	7

Table 6.9 The basic information for typological classification of vessels from volume 5 of the Danebury report (3)

ID No.	classification	Neck D	Max D	N / M	features	layer	cp
1445	JC2.0	9.4	9.5	98.9	pit 2269	8	7
1446	JC2.3	6	6.5	92.3	pit 2269	unstratified	7
1449	PB1.1		5		pit 2269	7	7
1450	BC2.1	3.9	4.4	88.6	pit 2269	4	7
1452	PB1.1		5		pit 2269	unstratified	7
1453	Lid		5.7		pit 2269	2	7
1454	PB1.1		6.7		pit 2269	b	7
1456	JC2.3	7.3	7.5	97.3	pit 2269	4, 8	7
1102	PB1.1		5.2		pit 2110	5	7 (or 8?)
1105	JC2.3	5.3	6.7	79.1	pit 2110	5	7 (or 8?)
1106	PB1.1		4.6		pit 2110	5	7 (or 8?)
1109	JD3.1	5.8	8.1	71.6	pit 2110	5	7 (or 8?)
1113	JD3.1	5.3	8.1	65.4	pit 2110	5	7 (or 8?)
1114	JD3.1	4.7	7.7	61	pit 2110	5	7 (or 8?)
1115	JD3.1	6.3	9.7	64.9	pit 2110	5	7 (or 8?)
1460	PB1.1		6		pit 2110	5	7 (or 8?)
1461	PB1.1		5.2		pit 2110	5	7 (or 8?)
1462	PB1.1	6.6	6.8	97.1	pit 2110	5	7 (or 8?)
1463	PB1.1		4.7		pit 2110	5	7 (or 8?)
1465	JC2.3	5.3	6.1	86.9	pit 2110	5	7 (or 8?)
1466	JC2.3	6.7	8	83.8	pit 2110	5	7 (or 8?)
1107	JE1/4	8	12.9	62	pit 1481	1	7-8
1124	JC2.2	6.4	7.7	83.1	pit 1481	11	7-8
1145	BD4.0	4.8	5.6	85.7	pit 1481	1B	7-8
1146	BD4.0	4.9	6.5	75.4	pit 1481	1A	7-8
1147	BD4.0	5.8	7	82.9	pit 1481	1A	7-8
1163	JE1/4	5.9	7	84.3	pit 1481	1	7-8
1164	JE1/4	11.9	12.6	94.4	pit 1481	1	7-8
1177	JC3.2	5.9	6.6	89.4	pit 1481	2	7-8
1178	JC2.3	5.9	6.9	85.5	pit 1481	2	7-8
1181	JC2.3	4.1	4.5	91.1	pit 1481	11	7-8
1185	JC3.1	6	7.5	80	pit 1481	5	7-8
1188	BD4.0	5	5.9	84.7	pit 1481	5	7-8
1190	JC3.1	6	6.7	89.6	pit 1481	5	7-8
1192	BD4.0	6.4	7.7	83.1	pit 1481	5	7-8
1260	JC3.11	7.3	9.8	74.5	-	1496	8
1108	JC3.2	7.3	7.7	94.8	pit 1411	5, 6	8
1219	JC3.1	8.7	10	87	pit 1900	3	7-9
1233	JC3.1	9.4	11.4	82.5	pit 1900	2	7-9
1234	JC2.3	7.2	9.6	75	pit 1900	2	7-9
1235	JC2.3	4.9	6.3	77.8	pit 1900	2	7-9
1240	Lid		8.7		pit 1900	2	7-9
1523	JE1/4	6.5	7.8	83.3	posthole 6375	-	8-9
1267	BD4.0	8.6	10	86	pit 2558	1	8-9
1500	Miscellaneous	8.7	8.9	97.8	-	2068	-
1473	Miscellaneous	5	5.5	90.9	pit 2590 & pit 2599	6 / 5	-
1151	JB2,3	6	6.7	89.6			3-4
1522	JB2.2	8.6	10.1	85.1			3-4
1526	JB4.1	5.1	5.5	92.7			3-4
1112	PA1.2		7.7				3-5
1116	PA1.2	6.1	6.8	89.7			3-5
1103	JD1.1	5.3	6.1	86.9			4-6
1133	BC1.1	7.1	7.3				4-7
1111	JC2.1	8.2	8.8	93.2			5-7
1131	JC2.2	7.7	8.8	87.5			5-7
1134	JC2.3	5.9	7.4	79.7			5-7
1149	DA1.1		8				5-7
1194	JD5.1	13.6	17	80			5-7
1256	JC2.3	4.5	5.2	86.5			5-7
1276	JC2.1	9.8	10.5	93.3			5-7
1525	JC2.3	4.9	7.3	67.1			5-7
1101	JD3.2	3.5	5	70			6-7
1104	PB1.1		6				6-7
1117	PB1.1	5.7	5.9	96.6			6-7
1119	PB1.1		6				6-7
1137	PB1.2		2.7				6-7
1118	JC3.1	5.9	6.8	86.8			8
1150	JC3.1	5.9	7	84.3			8
1153	JC3.1	7.3	7.8	93.6			8
1132	BD4.0	5.3	6.4	82.8			8-9
1110	Miscellaneous	13.7	15	91.3			-

Table 6.10 Lists of the features producing the vessels selected for the typological analysis (left: vol. 2, right: vol.5)

features	features	features	features	features
layer 1	pit 44	pit 230	pit 584	pit 893
layer 3	pit 48	pit 231	pit 589	pit 900
layer 6	pit 57	pit 238	pit 595	pit 906
layer 13	pit 58	pit 264	pit 598	pit 911
layer 24	pit 62	pit 286	pit 627	pit 923
layer 43	pit 66	pit 287	pit 628	pit 935
layer 45	pit 73	pit 301	pit 652	pit 944
layer 310	pit 78	pit 308	pit 657	pit 955
layer 314	pit 82	pit 310	pit 658	pit 967
layer 361	pit 92	pit 321	pit 674	pit 972
layer 403	pit 96	pit 325	pit 677	pit 984
layer 414	pit 97	pit 325	pit 680	pit 1021
layer 523	pit 102	pit 327	pit 683	pit 1030
layer 556	pit 103	pit 329	pit 684	pit 1033
pit 4	pit 104	pit 333	pit 702	pit 1038
pit 6	pit 106	pit 337	pit 712	pit 1070
pit 7	pit 110	pit 344	pit 718	pit 1078
pit 15	pit 115	pit 354	pit 761	pit 1089
pit 16	pit 117	pit 358	pit 766	pit 1133
pit 18	pit 121	pit 365	pit 783	pit 1135
pit 19	pit 127	pit 389	pit 800	pit 1145
pit 23	pit 133	pit 414	pit 813	feature 14
pit 26	pit 153	pit 452	pit 823	Flint revetment
pit 27	pit 158	pit 475	pit 834	Gully
pit 28	pit 166	pit 488	pit 847	Hearth
pit 29	pit 169	pit 496	pit 857	Inner ditch
pit 30	pit 173	pit 507	pit 860	Outer ditch
pit 32	pit 183	pit 570	pit 861	post hole 44
pit 33	pit 209	pit 574	pit 862	posthole 520
pit 34	pit 216	pit 575	pit 868	Ritual pit C
pit 37	pit 226	pit 583	pit 873	

features	features
layer 730	pit 2269
layer 731	pit 2271
layer 773	pit 2273
layer 1152	pit 2315
layer 1207	pit 2345
layer 1496	pit 2346
layer 1573	pit 2353
layer 1742	pit 2362
layer 1864	pit 2363
layer 1944	pit 2366
layer 1997	pit 2405
layer 2047	pit 2426
layer 2068	pit 2427
layer 2077	pit 2444
layer 2080	pit 2478
layer 2082	pit 2480
pit 1346	pit 2498
pit 1411	pit 2510
pit 1481	pit 2530
pit 1529	pit 2531
pit 1545	pit 2558
pit 1576	pit 2573
pit 1615	pit 2575
pit 1900	pit 2577
pit 1930	pit 2589
pit 1940	pit 2590
pit 2032	pit 2599
pit 2110	pit 2612
pit 2184	posthole 6375
pit 2200	gully 316
pit 2248	

Table 6.11 The stratigraphic relations of the features and layers associated with the vessels for the typological classification (1)

Phase	1969	1971	1973-75	1977-78
l		layer 1, layer 13		layer 361 layer 403, layer 414, layer 523
k	pit 7?, feature 14			pit 1070
j			layer 3 pit 834	layer 556, pit 1038
i	pit 7		pit 507, pit 847, **pit 813**	
h		layer 6	pit 823	
g	pit 4			
f		pit 104		
e			layer 310	
d	layer 43		pit 857	
c		layer 45c	pit 860	pit 1133, pit 1135
b		layer 45b, pit 103 (layer 2)		
a		layer 45a	layer 314	

Phase	1979-80	1980	1982	1982-84	1984-85	1986-87	1988
m					layer 1152		
l					pit 2346, pit 2426		layer 1944 pit 2590
k				pit 2269, pit 2271, pit 2273	layer 1207	pit 2575	
j-2					pit 2366, pit 2427, pit 2478	layer 1573	
j-1							
i-2					pit 2345, pit 2362		
i-1						pit 2573	
h							pit 2589
g		posthole 6375			layer 1496, pit 2363	layer 1864	
f					pit 2315, pit 2405	layer 1742	pit 2599
e							
d			layer 730B, layer 773				layer 1997
c			layer 730A				layer 2068
b			layer 731				layer 2080 layer 2047, layer 2077, layer 2082
a	pit 1411						

Table 6.12 Correlations between the dates, phases and periods resented in the Danebury reports

Date	Period/ cp	Period	1969-71	1973-75	1977-78	1979-80	1982	1982-84	1984-85	1986-87	1988
100 BC-AD 50	7-8 / 8	7	-	-	-	-	-	-	l	m	-
350/300-100 BC	5-6b / 6-7	6viii	-	j	l	-	-	k	k	l	-
		6vii	-	j	k	-	-	j	j	k	-
		6vi	-	i	j	-	-	i		j (ii)	-
		6v	-	h	j	-	-	h	i	j (i)	-
		6iv	-	-	-	-	-	g	g	i (ii)	-
		6iii	-	g	h/i	-	-	-	-	i (i)	-
		6ii	-	g	h/i	-	-	f	f	h	-
		6i	-	g	g	-	-	-	-	g	-
		5	g	e	f	-	e	e	e	f	e
c 450-350/300 BC	2d-4b / 4-5 & 6	2b-4b	f	dii	e	-	d	d	d	e	d
c 550-450 BC	1a-2b / 1-3	2a	e	di	e	-	c	c	c	d	c
		1b-c	b-d	b-c	e	-	b	b	b	c	b
		1a	a	a	e	-	a	a	a	b	a

Table 6.13 The average numbers of vessels per feature

(1) all features

Excavation reports	**vol. 2 (1984)**	**vol. 5 (1991)**	**Total** (vol. 2 & 5)
number of all features	149	47	196
number of vessels	342	120	462
average number of vessels per feature	2.3	2.6	2.4

(2) pits

Excavation reports	**vol. 2 (1984)**	**vol. 5 (1991)**	**Total** (vol. 2 & 5)
number of pits	133	45	178
number of vessels	321	118	439
average number of vessels per pit	2.4	2.6	2.5

(3) other features

Excavation reports	**vol. 2 (1984)**	**vol. 5 (1991)**	**Total** (vol. 2 & 5)
number of other features	16	2	18
number of vessels	21	2	23
average number of vessels per feature	1.3	1	1.3

Table 6.14 Correlation between stratigraphy and radiocarbon dates in specific sequences

Context	**stratigraphy**	**Median**	**Ceramic Phase**	**Calibrated date (68.2%)**	**Calibrated date (95.4%)**	**HAR no.**
Feature 40	l (1977-78)	117 BC	cp 7	197 BC to 42 BC	355 BC to AD 51	2568
layer 393	l (1977-78)	84 BC	cp 7	172 BC to AD 5	353 BC to AD 80	2573
layer 393	l (1977-78)	199 BC	cp 7	355 BC to 92 BC	385 BC to 41 BC	4337
layer 522	l (1977-78)	82 BC	cp 7	165 BC to AD 1	346 BC to AD 69	2970
Posthole 3624	k (1977-78)	314 BC	cp 6	403 BC to 209 BC	703 BC to 124 BC	4279
Posthole 3627	k (1977-78)	288 BC	cp 6	392 BC to 209 BC	483 BC to 95 BC	4243
Posthole 3628	k (1977-78)	598 BC	cp 6	761 BC to 419 BC	792 BC to 402 BC	4278
Posthole 3629	k (1977-78)	159 BC	cp 6	351BC to 44 BC	375 BC to AD 21	4244
Pit 554 layer 9	j (1973-75)	312 BC	cp 5	406 BC to 199 BC	735 BC to 56 BC	4325
layer 450	i (1977-78)	11 BC	cp 7	93 BC to AD 76	201 BC to AD 137	2973
Pit 1115	i (1977-78)	169 BC	cp 7	348 BC to 54 BC	366 BC to 2 BC	3027
Pit 1115 layers 4,6	i (1977-78)	59 BC	cp 7	161 BC to AD 25	348 BC to AD 124	3901
Pit 813 layer 10	i (1973-75)	214 BC	cp 7	357 BC to 111 BC	384 BC to 47 BC	1440
layer 478	h (1977-78)	269 BC	cp 6	370 BC to 202 BC	399 BC to 92 BC	3021
layer 478	h (1977-78)	509 BC	cp 6	748 BC to 384 BC	779 BC to 211 BC	4339
layer 511	h (1977-78)	269 BC	cp 6	370 BC to 202 BC	399 BC to 92 BC	3022
layer 511	h (1977-78)	631 BC	cp 6	793 BC to 540 BC	802 BC to 413 BC	4343
layer 568	h (1977-78)	269 BC	cp 6	390 BC to 186 BC	506 BC to 5 BC	4466
layer 497	d (1977-78)	232 BC	cp 4-5	375 BC to 118 BC	401 BC to 1 BC	4470
Pit 1131 layer 4	c (1977-78)	362 BC	cp 1-3	477 BC to 206 BC	731 BC to 176 BC	4464
Pit 1131 layer 6	c (1977-78)	583 BC	cp 1-3	749 BC to 413 BC	775 BC to 400 BC	3026

Table 6.15 List of samples for dating in the Danebury report vol.1 (Cunliffe 1984a) revised by OxCal ver.4 (Bronk Ramsey 2009)

HAR no.	Context	Material	Age BP	Calibrated date (68.2%)	Calibrated date (95.4%)	Median	cp
963	tr 11 layer 81	Charcoal	2180 ± 70	362 BC to 169 BC	389 BC to 55 BC	242 BC	gate
964	Pit 657 layer 6	Grain	2230 ± 70	384 BC to 206 BC	405 BC to 99 BC	279 BC	6
965	Pit 757 layer 4	Grain	2210 ± 70	370 BC to 202 BC	399 BC to 92 BC	269 BC	6
966	Pit 604 layer 2	Grain	3520 ± 70	1934 BC to 1751 BC	2035 BC to 1668 BC	1847 BC	-
967	Pit 574 layer 8	Grain	sample too	small for standard process			-
968	Pit 589	Grain	2140 ± 80	354 BC to 54 BC	384 BC to AD 1	185 BC	7
1425	Pit 802 layer 7	Charcoal	2040 ± 80	166 BC to 50 BC	353 BC to 128 BC	62 BC	-
1426	Pit 858 layer 3	Grain	1760 ± 80	AD 140 to AD 384	AD 70 to AD 433	AD 272	1-3
1439	Pit 860 layer 5	Charcoal	sample too	small for standard process			-
1440	Pit 813 layer 10	Charcoal	2160 ± 70	357 BC to 111 BC	384 BC to 47 BC	214 BC	7
1441	Pit 829 layer 3	Charcoal	sample too	small for standard process			-
1442	Pit 809 layer 4	Charcoal	2090 ± 90	346 BC to 5 BC	367 BC to 69 BC	124 BC	6
1801	Pit 858 layer 3	Grain	1930 ± 70	38 BC to AD 135	97 BC to AD 244	AD 74	1-3
2028	Pit 891 layer 7	Charcoal	1980 ± 80	89 BC to AD 125	182 BC to AD 220	AD 13	7
2029	Pit 868 layer 2	Charcoal	2530 ± 110	799 BC to 521 BC	895 BC to 397 BC	636 BC	1-3
2030	layer 357	Charcoal	2290 ± 60	405 BC to 211 BC	515 BC to 196 BC	330 BC	4
2031	Pit 925 layer 8	Grain	2030 ± 70	155 BC to AD 52	342 BC to AD 126	46 BC	7
2032	Pit 906 layer 7	Charcoal	2370 ± 80	744 BC to 378 BC	767 BC to 215 BC	493 BC	1-3
2033	Pit 875 layer 3	Charcoal	2460 ± 60	752 BC to 418 BC	767 BC to 408 BC	590 BC	1-3
2034	Pit 901 layer 5	Charcoal	2200 ± 80	377 BC to 186 BC	399 BC to 53 BC	256 BC	7
2035	Pit 885 layer 2	Charcoal	2260 ± 80	398 BC to 206 BC	521 BC to 60 BC	297 BC	7
2036	Pit 925 layer 8	Charcoal	2100 ± 90	348 BC to AD 1	372 BC to AD 59	136 BC	7
2037	Pit 866 layer 2	Charcoal	2060 ± 80	178 BC to AD 23	357 BC to AD 120	87 BC	6
2038	Pit 912 layer 3	Charcoal	2090 ± 70	201 BC to 2 BC	358 BC to AD 55	120 BC	6
2039	Pit 908 layer 5	Charcoal	2420 ± 80	747 BC to 401 BC	776 BC to 388 BC	552 BC	1-3
2040	Pit 878 layer 8	Charcoal	1830 ± 70	AD 85 to AD 254	AD 28 to AD 381	AD 188	7
2085	Pit 906 layer 7	Charcoal	2440 ± 70	748 BC to 409 BC	766 BC to 401 BC	571 BC	1-3
2564	Pit 978 layer 1	Charcoal	2300 ± 70	477 BC to 206 BC	732 BC to 176 BC	362 BC	7
2567	Pit 944 layer 1	Charcoal	2210 ± 60	365 BC to 204 BC	396 BC to 112 BC	274 BC	1-3
2568	Feature 40	Charcoal	2090 ± 60	197 BC to 42 BC	355 BC to AD 51	117 BC	7
2571	Pit 955 layer 2	Charcoal	2110 ± 80	350 BC to 5 BC	370 BC to AD 48	146 BC	7
2573	layer 393	Charcoal	2060 ± 70	172 BC to AD 5	353 BC to AD 80	84 BC	7
2581	Pit 945 layer 1	Charcoal	2160 ± 80	359 BC to 108 BC	392 BC to 4 BC	211 BC	1-3
2585	Pit 936 layer 4	Charcoal	2330 ± 60	513 BC to 236 BC	746 BC to 204 BC	404 BC	1-3
2586	layer 313	Charcoal		modern			-
2969	Pit 1089 layer 5	Grain	2120 ± 70	349 BC to 46 BC	366 BC to AD 5	157 BC	7
2970	layer 522	Charcoal	2060 ± 60	165 BC to AD 1	346 BC to AD 69	82 BC	7
2971	Posthole 3619	Charcoal	2110 ± 70	346 BC to 43 BC	361 BC to AD 22	144 BC	6
2972	Pit 1078 layer 10	Charcoal	2170 ± 70	361 BC to 118 BC	386 BC to 52 BC	228 BC	7
2973	layer 450	Charcoal	2000 ± 70	93 BC to AD 76	201 BC to AD 137	11 BC	7
2974	Pit 1078 layer 10	charcoal + grain	1990 ± 70	92 BC to AD 85	195 BC to AD 209	AD 3	7
2975	Pit 1089 layer 5	Charcoal	2370 ± 70	731 BC to 384 BC	762 BC to 234 BC	489 BC	7
3021	layer 478	Charcoal	2210 ± 70	370 BC to 202 BC	399 BC to 92 BC	269 BC	6
3022	layer 511	Charcoal	2210 ± 70	370 BC to 202 BC	399 BC to 92 BC	269 BC	6
3026	Pit 1131 layer 6	Charcoal	2450 ± 80	749 BC to 413 BC	775 BC to 400 BC	583 BC	1-3
3027	Pit 1115	Charcoal	2130 ± 60	348 BC to 54 BC	366 BC to 2 BC	169 BC	7
3726	Pit 875 layer 3	Bone	2270 ± 70	399 BC to 209 BC	518 BC to 118 BC	302 BC	1-3
3733	Pit 901 layer 5	Bone	2170 ± 70	361 BC to 118 BC	386 BC to 52 BC	228 BC	7
3743	Pit 891 layer 7	Bone	2120 ± 70	349 BC to 46 BC	366 BC to AD 5	157 BC	7
3899	Pit 885 layer 2	Bone	1900 ± 60	AD 29 to AD 211	39 BC to AD 242	AD 109	7
3901	Pit 1115 layers 4,6	Bone	2040 ± 70	161 BC to AD 25	348 BC to AD 124	59 BC	7
4206	tr 10 layer 20,	Charcoal	2400 ± 70	736 BC to 396 BC	766 BC to 383 BC	523 BC	gate
4207	tr 11 layer 30,	Charcoal	2650 ± 70	900 BC to 778 BC	979 BC to 550 BC	824 BC	gate
4208	tr 11 layer 28,	Charcoal	2380 ± 70	732 BC to 389 BC	766 BC to 260 BC	501 BC	gate
4243	Posthole 3627	Charcoal	2250 ± 70	392 BC to 209 BC	483 BC to 95 BC	288 BC	6
4244	Posthole 3629	Charcoal	2120 ± 80	351BC to 44 BC	375 BC to AD 21	159 BC	6

dates regarded as

* cp: Ceramic Phase of the report scheme

Table 6.16 List of samples for dating in the Danebury report vol.1 (Cunliffe 1984a) revised by OxCal ver.4 (Bronk Ramsey 2009) (cont.)

HAR no.	Context	Material	Age BP	Calibrated date (68.2%)	Calibrated date (95.4%)	Median	cp
4278	Posthole 3628	Charcoal	2470 ± 90	761 BC to 419 BC	792 BC to 402 BC	598 BC	6
4279	Posthole 3624	Charcoal	2280 ± 70	403 BC to 209 BC	703 BC to 124 BC	314 BC	6
4325	Pit 554 layer 9	Charcoal	2270 ± 90	406 BC to 199 BC	735 BC to 56 BC	312 BC	5
4326	Pit 183 layers 2,9	Charcoal	sample too	small for standard process			-
4327	Pit 35 layer 2	Charcoal	2120 ± 70	349 BC to 46 BC	366 BC to AD 5	157 BC	4
4328	Pit 19	Charcoal	2330 ± 90	721 BC to 211 BC	758 BC to 198 BC	425 BC	5
4329	Pit 932	Charcoal	2140 ± 80	354 BC to 54 BC	384 BC to AD 1	185 BC	5
4330	Pit 969	Charcoal	2580 ± 80	826 BC to 546 BC	898 BC to 417 BC	685 BC	4
4331	Pit 51 layer 3	Charcoal	2340 ± 100	733 BC to 213 BC	767 BC to 198 BC	451 BC	4
4337	layer 393	Bone	2150 ± 70	355 BC to 92 BC	385 BC to 41 BC	199 BC	7
4339	layer 478	Bone	2380 ± 90	748 BC to 384 BC	779 BC to 211 BC	509 BC	6
4343	layer 511	Bone	2520 ± 80	793 BC to 540 BC	802 BC to 413 BC	631 BC	6
4366	Pit 589	Bone	2300 ± 100	510 BC to 203 BC	756 BC to 114 BC	373 BC	7
4372	layer 357	Bone	2300 ± 90	506 BC to 204 BC	753 BC to 118 BC	369 BC	4
4464	Pit 1131 layer 4	Charcoal	2300 ± 70	477 BC to 206 BC	731 BC to 176 BC	362 BC	1-3
4465	Pit 1135	Charcoal	sample too	small for standard process			-
4466	layer 568	Charcoal	2220 ± 90	390 BC to 186 BC	506 BC to 5 BC	269 BC	6
4467	Pit 1040 layer 3	Charcoal	sample too	small for standard process			-
4468	Posthole 3113	Charcoal	2330 ± 70	521 BC to 231 BC	750 BC to 202 BC	411 BC	6
4469	layer 472	Charcoal	sample too	small for standard process			-
4470	layer 497	Charcoal	2180 ± 90	375 BC to 118 BC	401 BC to 1 BC	232 BC	4-5

Table 6.17 Data on radiocarbon dates of vessels selected for the typological classification

Median	Context	HAR no.	Material	Age BP	Calibrated date (68.2%)	Calibrated date (95.4%)	cp
AD 3	Pit 1078 layer 10	2974	charcoal + grain	1990 ± 70	92 BC to AD 85	195 BC to AD 209	7
146 BC	Pit 955 layer 2	2571	charcoal	2110 ± 80	350 BC to 5 BC	370 BC to AD 48	7
157 BC	Pit 1089 layer 5	2969	grain	2120 ± 70	349 BC to 46 BC	366 BC to AD 5	7
185 BC	Pit 589	968	grain	2140 ± 80	354 BC to 54 BC	384 BC to AD 1	7
214 BC	Pit 813 layer 10	1440	charcoal	2160 ± 70	357 BC to 111 BC	384 BC to 47 BC	7
228 BC	Pit 1078 layer 10	2972	charcoal	2170 ± 70	361 BC to 118 BC	386 BC to 52 BC	7
274 BC	Pit 944 layer 1	2567	charcoal	2210 ± 60	365 BC to 204 BC	396 BC to 112 BC	1-3
279 BC	Pit 657 layer 6	964	grain	2230 ± 70	384 BC to 206 BC	405 BC to 99 BC	6
373 BC	Pit 589	4366	bone	2300 ± 100	510 BC to 203 BC	756 BC to 114 BC	7
425 BC	Pit 19	4328	charcoal	2330 ± 90	721 BC to 211 BC	758 BC to 198 BC	5
489 BC	Pit 1089 layer 5	2975	charcoal	2370 ± 70	731 BC to 384 BC	762 BC to 234 BC	7
493 BC	Pit 906 layer 7	2032	charcoal	2370 ± 80	744 BC to 378 BC	767 BC to 215 BC	1-3
571 BC	Pit 906 layer 7	2085	charcoal	2440 ± 70	748 BC to 409 BC	766 BC to 401 BC	1-3
636 BC	Pit 868 layer 2	2029	charcoal	2530 ± 110	799 BC to 521 BC	895 BC to 397 BC	1-3
	Pit 183 layers 2,9	4326	charcoal	sample too	small for standard process		-
	Pit 574 layer 8	967	grain	sample too	small for standard process		-
	Pit 860 layer 5	1439	charcoal	sample too	small for standard process		-
	Pit 1135	4465	charcoal	sample too	small for standard process		-

Table 6.18 The chronological scheme of Iron Age vessels in the Danebury region (Cunliffe 1984b, Cunliffe 1995)

cp	diagnostic characteristics	style zone equivalent	period
1	angular bipartite bowls stamped decoration	Early All Cannings Cross group	Earliest
2	furrowed bowls	Later All Cannings Cross group	Earliest
3	scratched-cordoned bowls	All canning Cross-Meon Hill group	Early
4	plain round shouldered bowls	All canning Cross-Meon Hill group	Early
5	simple barrel and jar forms	All canning Cross-Meon Hill group	Early
6	plain saucepan pots	Yarnbury-Highfield style and St Catherine's Hill-Worthy Down style	Middle
7	decorated saucepan pots	Yarnbury-Highfield style and St Catherine's Hill-Worthy Down style	Late
8	early wheel-turned vessels and Dressel 1A amphorae	Atrebatic	Latest
9	developed wheel-turned	Atrebatic	Latest

Table 6.19 The chronological framework of Iron Age vessels in the Danebury region (Cunliffe 1984b, Cunliffe 1995, Cunliffe 2000)

	cp 1	cp 2	cp 3	cp 4	cp 5	cp 6	cp 7	cp 8	cp 9
JA1									
JA2									
JB1									
JB2									
JB3									
JB4									
JC1									
JC2									
JC3									
JC4									
JD1									
JD2									
JD3									
JD4									
JD5									
JE1									
JE2									
JE3									
JE4									
JF1									
JG									
BA1									
BA2									
BB1									
BB2									
BB3									
BC1									
BC2									
BC3									
BD1									
BD2									
BD3									
BD4									
BD5									
BD6									
BE1									
	7th c. BC～		**470BC～**	**360BC～**	**～**	**310BC～**	**270BC～**	**50BC～**	**～AD50**
			Early	**Early**	**Early**	**Middle**	**Late**	**Latest**	**Latest**
			110 years	**50 years**	**～**	**40 years**	**220 years**	**100 years**	**～**
	cp 1	**cp 2**	**cp 3**	**cp 4**	**cp 5**	**cp 6**	**cp 7**	**cp 8**	**cp 9**
DA1									
DA2									
DB1									
DB2									
DB3									
PA1									
PA2									
PA3									
PB1									
PL1									
PL2									
PL3									
C									
BK1									
BK2									
F									
L									
	7th c. BC～		**470BC～**	**360BC～**	**～**	**310BC～**	**270BC～**	**50BC～**	**～AD50**
			Early	**Early**	**Early**	**Middle**	**Late**	**Latest**	**Latest**
			110 years	**50 years**	**～**	**40 years**	**220 years**	**100 years**	**～**

* The left column shows the ceramic varieties in the Danebury scheme.

Table 6.20 Dated metal objects from Danebury

Ill. No.	Context	Phase (Stratigraphy)	Type	Date	cp
1.24	DA 70, Tr 13, layer 12	-	La Tène I	before the end of the 4^{th} century BC	3
1.25	DA 69, Tr 1, layer 6	i	La Tène III	during the later 2^{nd} BC	7
1.26	DA 69, Tr 9, layer 3	j	La Tène III	during the later 2^{nd} BC	7
1.27	DA 78, layer 367	i	La Tène III	during the later 2^{nd} BC	7 / 8
1.28	DA 77, layer 391	m	-	the early 2^{nd} BC	7 / 8
1.29	DA 77, layer 388	l	-	from the 3^{rd} century BC	7
1.89	surface	-	La Tène I	from the mid-5^{th} century BC	-
1.90	DA 86-87, Pit 2570	i 1	La Tène II	during the earlier part of the 1^{st} century BC	7
1.94	DA 88, layer 1993	f	-	the later 5^{th} – 4^{th} centuries BC	7

* **1.94** is a **bronze ornamental disk**. The others are **brooches**.

Table 6.21 Stratigraphy of dated metal objects from Danebury

Date	Period/ cp
100 BC-AD 50	7-8 / 8
350/300-100 BC	5-6b / 6-7

Period	1969-71	1977-78	1986-87	1988
7		**1.28**		
6viii		**1.29**		
6vii				
6vi				
6v	**1.25, 1.26**			**1.94**
6iv				
6iii		**1.27**	**1.90**	
6ii				
6i				
5				

* **The numbers such as 1.94** are the illustration numbers of the objects. (*cf.* Table 6.20)

Table 6.22 Categories of the vessels from Danebury

Category	Ratio (%)	number of vessels	percentage of vessels
①	57.4 - 62	6	1.1
②	64.5 - 65.4	4	0.7
③	66.3 - 67.7	7	1.3
④	69 - 71.6	13	2.4
⑤	72.3 - 73.3	6	1.1
⑥	74.2 - 76	9	1.7
⑦	76.6 - 77.8	12	2.2
⑧	78.3 - 80.8	32	6
⑨	81.3 - 98.9	328	61.3
⑩	-	116	21.7
Total	-	535	100

* Ratio: the ratios of the **neck** to **max** diameters of the vessels

Table 6.23 The classification table of the vessels from Danebury (1)

Category	Form	Surface	(Upper) Body	Neck to Rim
①	1	Decorative	Rounded: loosely curved.	Short: curved outwards.
	2	Decorative	Rounded: loosely curved.	Short: curved outwards.
	3	Decorative	Rounded: loosely curved	Middle: upright and slant outwards
	4	Decorative	Rounded: high-shouldered	Short: bent and upright * upright neck
	5	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	6	Plain	Rounded: loosely curved	Short: upright and slant outwards
②	1	Decorative	Rounded: curved	Middle: curved outwards
	2	Decorative	Rounded: curved	Short: curved outwards
	3	Decorative	Rounded: loosely curved	Middle: curved outwards
	4	Decorative	Rounded: loosely curved	Long: curved outwards
③	1	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	2	Decorative	Rounded: loosely curved	Middle: upright and slant outwards
	3	Decorative	Rounded: curved	Short: upright
	4	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	5	Decorative	Rounded: loosely curved	Middle: upright and slant outwards

Table 6.24 The classification table of the vessels from Danebury (2)

Category	Form	Surface	(Upper) Body	Neck to Rim
	6	Plain	Rounded: curved	Simple
	7	Plain	Rounded: high-shouldered	Middle: upright
④	1	Decorative	Rounded: straight	Middle: curved outwards
	2	Decorative	Rounded: loosely curved	Short: curved outwards
	3	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	4	Decorative	Rounded: loosely curved	Long: curved outwards
	5	Decorative	Rounded: loosely curved	Minimal: upright
	6	Decorative	Rounded: straight	Minimal: upright
	7	Plain	Rounded: curved	Middle and short: upright and slant outwards
	8	Plain	Rounded: shortly curved	Short: upright
	9	Plain	Rounded: loosely curved *small	Short: upright and slant outwards
	10	Plain	Rounded: loosely curved	Middle and short: upright and slant outwards
⑤	1	Decorative	Rounded: loosely curved	Minimal: upright
	2	Decorative	Rounded: curved	Minimal: upright
	3	Plain	Rounded: loosely curved	Long: upright and slant outwards
	4	Plain	Rounded: high-shouldered	Minimal: upright
	5	Plain	Rounded: loosely curved	Minimal: upright
⑥	1	Decorative	Rounded: loosely curved	Middle: upright and slant outwards
	2	Decorative	Rounded: shortly curved	Minimal: projecting outwards *curved outwards neck
	3	Decorative	Rounded: loosely curved	Minimal: projecting outwards * upright neck
	4	Decorative	Rounded: curved	Minimal: upright
	5	Plain	Rounded: loosely curved	Long or middle: upright and slant outwards
	6	Plain	Rounded: loosely curved	Minimal: upright and slant outwards
	7	Plain	Rounded: loosely curved	Minimal: upright
⑦	1	Decorative	Rounded: shortly curved	Long: upright and slant outwards
	2	Decorative	Rounded: loosely curved	Minimal: upright
	3	Decorative	Rounded: curved	Short: upright
	4	Decorative	Rounded: shortly curved *small	Minimal: upright
	5	Decorative	Rounded: loosely curved *small	Short: upright
	6	Decorative	Rounded: shortly curved *small	Short: upright
	7	Plain	Rounded: loosely curved	Minimal: upright and slant outwards
	8	Plain	Rounded: high-shouldered	Minimal: upright
	9	Plain	Inflectional: straight	Minimal: upright *upright neck
⑧	1	Decorative	Rounded: curved	Minimal: upright
	2	Decorative	Rounded: loosely curved	Simple
	3	Decorative	Rounded: loosely curved	Minimal: upright
	4	Decorative	Rounded: straight	Simple
	5	Decorative	Rounded: straight	Long: upright and slant outwards
	6	Decorative	Rounded: straight	Short: upright and slant outwards
	7	Decorative	Rounded: loosely curved	Short: curved outwards
	8	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	9	Plain	Rounded: loosely curved.	Minimal: upright.
	10	Plain	Rounded: curved	Minimal: upright
	11	Plain	Rounded: straight	Minimal: upright and slant inwards
	12	Plain	Rounded: high-shouldered	Short: upright
	13	Plain	Rounded: straight	Short: upright
	14	Plain	Rounded: straight *deep	Long and middle: upright and slant outwards
	15	Plain	Rounded: straight *shallow	Middle: upright and slant outwards
	16	Plain	Rounded: loosely curved *deep	Simple or minimal: upright and slant outwards
	17	Plain	Rounded: loosely curved *large	Short: upright and slant outwards
⑨	1	Decorative	Rounded: shortly loosely curved	Long: upright and slightly curved outwards
	2	Decorative	Rounded: shortly loosely curved	Short: curved outwards
	3	Decorative	Rounded: shortly straight	Long: upright and slightly curved outwards
	4	Decorative	Rounded: shortly straight and slightly curved	Long: upright and slant outwards
	5	Decorative	Rounded: shortly straight	Middle: curved outwards

Table 6.25 The classification table of the vessels from Danebury (3)

Category	Form	Surface	(Upper) Body	Neck to Rim
⑨	6	Decorative	Rounded: shortly loosely curved	Long: upright and slant outwards
	7	Decorative	Rounded: loosely curved	Short: upright and slant inwards
	8	Decorative	Rounded: shortly straight and slightly curved	Long: upright and slant outwards
	9	Decorative	Rounded: shortly straight	Short: upright
	10	Decorative	Rounded: straight	Middle: curved outwards
	11	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	12	Decorative	Rounded: loosely curved	Short: curved outwards
	13	Decorative	Rounded: loosely curved	Short: projecting outwards *flat rim-top
	14	Decorative	Rounded: shortly loosely curved	Minimal: projecting outwards *upright neck
	15	Decorative	Rounded: loosely curved	Middle: upright and slant outwards *successive hollows on a rim-top
	16	Decorative	Rounded: shortly loosely curved	Middle: upright and slant outwards *successive hollows on a rim-top
	17	Decorative	Rounded: high-shouldered	Minimal: upright
	18	Decorative	Rounded: shortly loosely curved	Minimal: upright
	19	Decorative	Rounded: loosely curved	Simple
	20	Decorative	Rounded: shortly loosely curved	Simple
	21	Decorative	Rounded: loosely curved	Minimal
	22	Decorative	Rounded: loosely curved	Minimal
	23	Decorative	Rounded: straight	Minimal: upright
	24	Decorative	Rounded: vertical	Simple
	25	Decorative	Rounded: vertical	Minimal: upright and slant outwards
	26	Decorative	Rounded: vertical	Simple: curved inwards
	27	Decorative	Rounded: vertical	Simple
	28	Decorative	Rounded: vertical	Minimal: upright outwards
	29	Decorative	Rounded: vertical	Minimal
	30	Decorative	Rounded: loosely curved *small	Minimal: upright and slant outwards
	31	Decorative	Rounded: shortly curved *small	Minimal: upright and slant outwards
	32	Decorative	Rounded: loosely curved	Minimal: upright and slant outwards
	33	Decorative	Rounded: loosely curved *small and large	Minimal
	34	Decorative	Rounded: vertical	Simple
	35	Decorative	Rounded: vertical	Simple or minimal: upright and slant outwards
	36	Decorative	Rounded: straight *small	Simple
	37	Decorative	Rounded: shortly curved *small	Minimal: upright
	38	Decorative	Rounded: shortly loosely curved	Minimal: upright
	39	Decorative	Rounded: loosely curved	Minimal: upright
	40	Decorative	Rounded: loosely curved *small	Simple
	41	Decorative	Rounded: vertical and slant outwards *small	Minimal
	42	Decorative	Rounded: loosely curved *large and small	Minimal
	43	Decorative	Rounded: loosely curved	Minimal: upright
	44	Decorative	Rounded: vertical and slant outwards	Minimal.
	45	Decorative	Rounded: loosely curved	Simple *flat rim-top.
	46	Decorative	Rounded: loosely curved	Minimal: upright and slant outwards
	47	Decorative	Rounded: loosely curved	Simple
	48	Decorative	Rounded: vertical	Simple
	49	Decorative	Rounded: shortly straight * a variety of size	Minimal: upright and slant outwards
	50	Decorative	Rounded: loosely curved	Simple
	51	Decorative	Rounded: straight *small	Minimal
	52	Decorative	Rounded: shortly straight	Simple
	53	Decorative	Rounded: vertical	Simple
	54	Decorative	Inflectional: shortly straight	Middle: curved outwards
	55	Decorative	Inflectional: shortly straight *shallow	Minimal: upright and slant outwards
	56	Decorative	Inflectional: shortly straight	Minimal
	57	Decorative	Inflectional: shortly straight *shallow	Short: upright and slant outwards *upright neck
	58	Decorative	Inflectional: vertical	Simple
	59	Decorative	Inflectional: shortly straight	Middle: slightly curved outwards
	60	Plain	Rounded: shortly straight	Short: bent inwards
	61	Plain	Rounded: shortly loosely curved	Minimal: upright and slant outwards *upright neck
	62	Plain	Rounded: shortly loosely curved *shallow	Middle: upright and slant outwards *upright neck
	63	Plain	Rounded: shortly loosely curved	Long : upright and slant outwards *upright neck

Table 6.26 The classification table of the vessels from Danebury (4)

Category	Form	Surface	(Upper) Body	Neck to Rim
⑨	64	Plain	Rounded: shortly loosely curved *shallow	Long: upright
	65	Plain	Rounded: shortly straight (slightly curved)	Middle: upright and slant outwards
	66	Plain	Rounded: straight (slightly curved)	Long: upright and slant outwards *flat rim-top
	67	Plain	Rounded: shortly loosely curved *shallow	Minimal: upright and slant outwards *upright neck
	68	Plain	Rounded: shortly loosely curved *shallow	Short: upright and slant outwards
	69	Plain	Rounded: shortly straight	Middle: upright and slant outwards
	70	Plain	Rounded: shortly straight	Short: curved outwards
	71	Plain	Rounded: straight	Short: upright and slant outwards
	72	Plain	Rounded: shortly straight	Short: upright
	73	Plain	Rounded: shortly curved	Middle: upright and slant outwards * flat rim-top
	74	Plain	Rounded: loosely curved	Middle: upright and slant outwards * flat rim-top
	75	Plain	Rounded: shortly loosely curved *shallow	Short: upright
	76	Plain	Rounded: straight	Simple: upright * flat rim-top
	77	Plain	Rounded: shortly vertical	Short: upright and slant outwards
	78	Plain	Rounded: shortly loosely curved *shallow	Short: upright *flat and thick rim-top
	79	Plain	Rounded: shortly loosely curved *shallow	Middle: slightly curved outwards * flat rim-top
	80	Plain	Rounded: loosely curved	Short: upright and slant outwards
	81	Plain	Rounded: loosely curved *vertical	Middle: upright and slant outwards *flat rim-top
	82	Plain	Rounded: shortly loosely curved	Middle: upright and slant outwards
	83	Plain	Rounded: shortly straight *shallow	Long: curved outwards
	84	Plain	Rounded: shortly straight *shallow	Middle: upright and slant outwards
	85	Plain	Rounded: loosely curved	Long: upright and slant outwards *flat-rim-top
	86	Plain	Rounded: loosely curved *vertical	Long to middle: upright and slant outwards
	87	Plain	Rounded: loosely curved	Short: upright (and slant inwards)
	88	Plain	Rounded: loosely curved	Minimal: upright * thick and flat rim-top
	89	Plain	Rounded: straight *shallow	Minimal: upright and slant outwards
	90	Plain	Rounded: shortly loosely curved *small * shallow	Minimal
	91	Plain	Rounded: shortly loosely curved *small * shallow	Simple
	92	Plain	Rounded: shortly loosely curved *shallow	Minimal: upright and slant outwards
	93	Plain	Rounded: shortly curved	Minimal: upright and slant outwards
	94	Plain	Rounded: high-shouldered	Minimal: upright
	95	Plain	Rounded: shortly loosely curved *shallow	Simple
	96	Plain	Rounded: shortly loosely curved	Simple
	97	Plain	Rounded: loosely curved	Simple
	98	Plain	Rounded: shortly straight *vertical	Simple *flat rim-top
	99	Plain	Rounded: straight	Minimal; upright and slant outwards
	100	Plain	Rounded: high-shouldered	Minimal; upright and slant outwards
	101	Plain	Rounded: straight *shallow	Short or minimal; upright and slant outwards
	102	Plain	Rounded: loosely curved *vertical	Simple
	103	Plain	Rounded: straight *vertical	Short: upright and slant outwards
	104	Plain	Rounded: loosely curved	Short or minimal; upright and slant outwards
	105	Plain	Rounded: loosely curved *small	Short or minimal; upright and slant outwards
	106	Plain	Rounded: straight *vertical	Simple
	107	Plain	Rounded: shortly straight * small *shallow	Simple
	108	Plain	Rounded: straight *vertical *small *shallow	Simple or minimal; upright and slant outwards
	109	Plain	Rounded: loosely curved *small *shallow	Simple
	110	Plain	Rounded: shortly loosely curved *small *shallow	Simple *thick
	111	Plain	Rounded: loosely curved *small *shallow	Minimal: upright
	112	Plain	Rounded: shortly loosely curved *vertical	Simple
	113	Plain	Rounded: shortly loosely curved *vertical *shallow	Simple or minimal; upright and slant outwards
	114	Plain	Rounded: loosely curved *a variety of size	Simple or minimal; upright and slant outwards
	115	Plain	Rounded: shortly loosely curved *a variety of size	Simple or minimal; upright and slant outwards
	116	Plain	Inflectional: straight	Simple *flat rim-top
	117	Plain	Inflectional: shortly straight	Minimal: upright
	118	Plain	Inflectional: shortly straight *shallow	Short: upright and slant outwards
	119	Plain	Inflectional: shortly straight *shallow	Middle: slightly curved outwards
	120	Plain	Inflectional: shortly straight *shallow *small	Simple or minimal: upright and slant outwards
	121	Plain	Inflectional: shortly straight	Long or middle: upright and slant outwards (* flat rim-top)
	122	Plain	Inflectional: shortly straight	Middle or short: slightly curved outwards
	123	Plain	Inflectional: shortly straight *shallow	Long: upright and slant outwards (slightly curved outwards)
	124	Plain	Inflectional: shortly straight *shallow	Middle: upright
	125	Plain	Inflectional: high-shouldered	Middle: slightly curved outwards
	126	Plain	Inflectional: shortly straight *shallow *small and large	Long: upright and slant outwards (slightly curved outwards)

Table 6.27 The classification table of the vessels from Danebury (5)

Category	Form	Surface	(Upper) Body	Neck to Rim
⑩	1	Decorative	Rounded: vertical *slant outwards	Simple
	2	Decorative	Rounded: loosely curved *slant outwards	Simple *hollow rim-top
	3	Decorative	Rounded: loosely curved *strongly slant outwards	Simple *flat rim-top
	4	Decorative	Rounded: vertical *slant outwards	Simple
	5	Decorative	Rounded: vertical *slant outwards	Minimal
	6	Decorative	Rounded: vertical *slant outwards	Minimal or simple
	7	Decorative	Rounded: vertical *slant outwards	Simple
	8	Decorative	Rounded: vertical *slant outwards	Simple
	9	Decorative	Rounded: vertical *slant outwards	Simple
	10	Decorative	Rounded: vertical *slant outwards	Simple
	11	Decorative	Rounded: vertical *slant outwards	Simple
	12	Decorative	Rounded: vertical *slant outwards	Simple
	13	Decorative	Rounded: vertical *slant outwards	Simple
	14	Decorative	Rounded: vertical *slant outwards	Simple
	15	Decorative	Rounded: vertical *slant outwards	Simple
	16	Decorative	Rounded: vertical *slant outwards	Simple
	17	Decorative	Rounded: vertical *slant outwards	Simple
	18	Decorative	Rounded: curved	Simple *thick
	19	Decorative	Rounded: loosely curved *slant outwards	Simple: flat and slant rim-top
	20	Decorative	Rounded: vertical *slant outwards	Simple
	21	Decorative	Rounded: vertical *slant outwards	Simple
	22	Decorative	Rounded: vertical *small and large *slant outwards	Simple
	23	Decorative	Rounded: vertical *small and large *slant outwards	Simple
	24	Decorative	Rounded: vertical *small *slant outwards	Simple
	25	Decorative	Rounded: curved	Minimal
	26	Decorative	Rounded: vertical *slant outwards	Simple
	27	Decorative	Rounded: vertical *small and large *slant outwards	Simple
	28	Decorative	Rounded: loosely curved *strongly slant outwards	Simple: flat and projecting outwards
	29	Plain	Rounded: vertical and straight *slant outwards	Simple
	30	Plain	Rounded: vertical and loosely curved *slant outwards *there is small size *shallow	Simple
	31	Plain	Rounded: vertical and straight *slant outwards *deep	Simple
	32	Plain	Rounded: loosely curved *strongly slant outwards	Simple: slightly curved inwards
	33	Plain	Rounded: loosely curved *strongly slant outwards	Simple: slightly slant outwards
	34	Plain	Rounded: loosely curved *strongly slant outwards	Simple: slightly curved outwards
	35	Plain	Rounded: loosely curved *strongly slant outwards	Simple: flat and projecting outwards
	36	Plain	Rounded: straight	Simple: two grooves on a rim-top
	37	Plain	Rounded: straight * strongly slant outwards *shallow	Simple: upright
	38	Plain	Rounded: loosely curved *strongly slant outwards *shallow *small	Simple
	39	Plain	Rounded: loosely curved *strongly slant outwards *shallow	Minimal: two grooves on a rim-top
	40	Plain	Rounded: vertical	Minimal: two grooves on a rim-top
	41	Plain	Inflectional: straight * slant outwards	Simple

* The sub-division of the **decorative** types is based on decoration patterns (*cf.* Figures)

Table 6.28 Information on the number of Iron Age vessels from Danebury

Category	number of vessels	number of forms	average number	number of Major Forms
①	6	6	1	6
②	4	4	1	4
③	7	7	1	7
④	13	10	1.3	2
⑤	6	4	1.5	2
⑥	9	7	1.3	2
⑦	12	9	1.3	1
⑧	32	17	1.9	6
⑨	328	126	2.6	28
⑩	116	41	2.8	12
Total	**535**	**226**	**2.4**	**69**

Table 6.29 The fundamental classifications of the Major Forms in Danebury

Form	Plain	Decorative	Rounded	Inflectional
② - 1				
④ - 7				
④ - 10				
⑤ - 5				
⑥ - 5				
⑥ - 7				
⑦ - 7				
⑧ - 5				
⑧ - 10				
⑧ - 12				
⑧ - 14				
⑧ - 16				
⑧ - 17				
⑩ - 1				
⑩ - 4				
⑩ - 5				
⑩ - 10				
⑩ - 11				
⑩ - 14				
⑩ - 15				
⑩ - 16				
⑩ - 28				
⑩ - 29				
⑩ - 30				
⑩ - 31				

Form	Plain	Decorative	Rounded	Inflectional
⑨ - 15				
⑨ - 35				
⑨ - 49				
⑨ - 50				
⑨ - 62				
⑨ - 65				
⑨ - 71				
⑨ - 73				
⑨ - 84				
⑨ - 85				
⑨ - 86				
⑨ - 87				
⑨ - 89				
⑨ - 93				
⑨ - 97				
⑨ - 99				
⑨ - 100				
⑨ - 101				
⑨ - 104				
⑨ - 105				
⑨ - 106				
⑨ - 108				
⑨ - 113				
⑨ - 114				
⑨ - 115				
⑨ - 121				
⑨ - 122				
⑨ - 126				

Table 6.30 The chronological framework of Iron Age vessels from Danebury

	Rim shape	Decoration	Size	Notes
Later period (≒ La Tène)	* short / simple * curve outwards	* motifs: combinations of lines, dots and curves	* varieties	* shallow types * vertical bodies
c. 450 to 300 BC				
Earlier period (≒ Hallstatt)	* long * upright / lean outwards	* horizontal cordons * horizontal zigzag lines * impressions on a rim top	* middle or small ?	

Table 6.31 The features from Suddern Farm including upper bodies of Iron Age vessels

Context	Ceramic Phase	40	50	60	70	80	90	100
P113	cp 3/4							
P135	cp 3/4							
P212	cp 3/4							
P194	cp 3-5/8?							
P197	cp 4/5							
P108	cp 6							
P132	cp 6							
P140	cp 6/7							
P78	cp 7							
P92	cp 6-7							
P120	cp 6 or 7							
P84	1st cent.							
P104	cp 8/9							
P128	1st cent. BC							
P119	1st cent. BC/AD							
F49	1st cent. AD							
F64	1st cent. Pre-Flavian							

* **Context** : P = Pit , F = Feature ***Phase** : cp = Ceramic Phase which was established in the Danebury report in 1984

*** The numbers** between 40 and 100 mean ratios of neck diameters to max diameters of vessels. Ex. 40 → more than 40%, but under 50%

Table 6.32 The basic information on upper bodies of Iron Age vessels from Suddern Farm (1)

Context	Ceramic No.	Ceramic form	layer	phase	Neck D	Max D	Ratio
P113	131	JC1.1	5	cp 3/4	6.1	6.7	91
P135	23	JB2/3	8	cp 3/4	9.2	9.8	93.9
	45	JB3.1	+	cp 3/4	10.1	10.7	94.4
P212	62	JB4.1	2	cp 3/4	8.2	9.9	82.8
	64	JB2.0	2	cp 3/4	9.6	11.2	85.7
P194	154	JA2?	4	cp 3-5/8?	9.6	9.7	99
	155	JA2	4.5	cp 3-5/8?	12.3	13	94.6
	157	PA1.1	6	cp 3-5/8?	4.9	5.5	89.1
	158	JD2.2?	6	cp 3-5/8?	5.1	6	85
	159	JD2.0	5.7	cp 3-5/8?	8.9	9.7	91.8
P197	176	PA2.1	2.3.4.6.8	cp 4/5		7.2	
	177	JC2.1	2.3.4.6	cp 4/5	8.7	8.9	97.8
	178	PA1.2	2.3.6.8	cp 4/5	7.4	7.6	97.4
	179	JB2.3	4.6	cp 4/5	6.6	6.8	97.1
	180	PA2.1	7	cp 4/5		3.9	
	182	JB4.1	7	cp 4/5	4.7	5.1	92.2
	260	PB1.1	2	cp 4/5	8.1	8.2	
	261	PA2.1	B7	cp 4/5		4.6	
P108	105	JC2.3	1	cp 6	4.7	5.5	85.5
	106	JC1.1	2.4	cp 6	9	10.4	86.5
	110	PB1.1	4	cp 6	5.6	6.2	90.3
P132	9	JB4.1	1	cp 6	3.6	3.7	97.3
	12	PB1.1	1	cp 6		5.6	
	13	PA1.2	1	cp 6	6	6.8	88.2
	15	JC2.3	3	cp 6	5	6.2	80.6
P140	25	BC2.1	3	cp 6/7	4.3	4.7	91.5
	26	PB1.1	3	cp 6/7		5.7	
	28	JC2.2	3	cp 6/7	8.9	10	89
	30	JC2.2	3	cp 6/7	7.7	8.8	87.5
	31	JC2.2	3	cp 6/7	8.4	9.6	87.5
	32	JC2.3	3	cp 6/7	5.9	6.3	93.7
	33	PB1.1	3	cp 6/7		7.9	
P78	141	PB1.1	2	cp 7	5.3	5.5	96.4
	145	PB1.1	3	cp 7	6.4	7.8	82.1
	146	PB1.1	3	cp 7	6	6.4	93.8
	147	DA1.1	3	cp 7	8.5	9.4	
	149	JD3.1	5	cp 7	6	7.6	78.9
	455	PB1.1	1	cp 7	10.1	10.3	98.1
P92	230	JC1.1	1	cp 6-7	11.5	12.5	92
	232	PA2.1	1	cp 6-7	5.4	5.5	98.2
	233	PL(Misc.)	1	cp 6-7		8	
	234	JC2.1/2	2.3	cp 6-7	7.5	8.4	89.3
	238	PB1.1	7	cp 6-7	5.3	5.4	
	242	JC2.3	4	cp 6-7	4.7	5.4	87
	243	PB1.1	4	cp 6-7	5.5	5.7	96.5
	244	JC2.3	4	cp 6-7	5.4	6.3	85.7
	245	PB1.1	6	cp 6-7		6	
	247	PA1.2	4.6	cp 6-7	4.5	5.5	81.8
	248	JC2.2	4.6	cp 6-7	4.8	5.5	87.3
	249	JB4.1	4.6	cp 6-7	7.9	8.7	90.8
P120	167	JC2.3	1.2.5	cp 6 or 7	5.8	6.3	92.1
	168	PB1.1	2.3.5	cp 6 or 7	5.3	5.4	98.1
	170	PB1.1	3	cp 6 or 7	4.9	5.4	90.7
	172	PB1.1	1.2.5.6	cp 6 or 7	5.7	5.8	98.3

Table 6.33 The basic information on upper bodies of Iron Age vessels from Suddern Farm (2)

Context	Ceramic No.	Ceramic form	layer	phase	Neck D	Max D	Ratio
P120	174	JB4.1	5	cp 6 or 7	4.8	5.2	92.3
	175	PA1.2	5.6	cp 6 or 7	4.8	5.6	85.7
	222	PB1.1	1	cp 6 or 7	5.8	5.9	98.3
	255	JD4.11	1	cp 6 or 7	4.5	5.3	84.9
	256	JD4.11	1	cp 6 or 7	3.8	5	76
	257	BO3.3	1	cp 6 or 7	6.3	6.9	91.3
P84	97	JD4.5	2	1st cent.	4.3	5.3	81.1
	99	BC3.51	3	1st cent.	5.7	7.1	80.3
	100	JC3.2	3.4	1st cent.	9.2	10.4	88.5
	597	JC3.1	2.3	1st cent.	10.1	11.5	87.8
	598	BD4.2	2.3	1st cent.	4.1	5.4	75.9
P104	192	JC3.1	1	cp 8/9	6.2	7	88.6
	193	JC3.1	1	cp 8/9	9.6	10.9	88.1
	196	JC3.1	3.4	cp 8/9	9.8	10.6	92.5
	197	JC3.1	4.5	cp 8/9	8.3	9.2	90.2
	198	BC3.3	4	cp 8/9	4.6	4.8	95.8
	199	JD4.42	4	cp 8/9	7.2	8.5	84.7
	201	Lid	4	cp 8/9		4.5	
	202	Lid	4	cp 8/9	10	10.3	
	203	BC3.51	8	cp 8/9	5.3	6.6	80.3
	204	JC3.1	10	cp 8/9	11.4	12.7	89.8
	210	JE4.1	1	cp 8/9	6.4	7.8	82.1
	212	JD4.42	1	cp 8/9	6.4	7.5	85.3
	213	BD2.11	1	cp 8/9	5	6.1	82
	215	JC3.1	1	cp 8/9	5.8	7	82.9
	216	PL1	1	cp 8/9		7.1	
	217	JC3.1	1	cp 8/9	7.6	9.2	82.6
	223	JC3.1	4.5	cp 8/9	7.2	8.7	82.8
	224	BC3.3	4.5	cp 8/9	4.7	5.5	85.5
	227	BC3.3	9	cp 8/9	5	5.9	84.7
	228	JD4.11	4	cp 8/9	6.8	7.7	88.3
	229	BC3.3	4	cp 8/9	4.5	5.2	86.5
	258	BC3.2	4	cp 8/9	5.7	6.2	91.9
	259	BD5.1	4	cp 8/9	7.7	8.5	90.6
P128	78	BC3.3	1	1st cent. BC	6.2	8.2	75.6
	79	BC3.3	1	1st cent. BC	6.2	7.7	80.5
	80	BC3.3	1	1st cent. BC	7.5	8	93.8
	81	BC3.3	1	1st cent. BC	3	3.2	93.8
	84	Lid	1	1st cent. BC		10.1	
	252	PL2	1	1st cent. BC		6.7	
P119	300	BD4.1	3	1st cent. BC/AD	8.3	8.7	95.4
	301	BD4.2	1.3	1st cent. BC/AD	3.2	4.6	69.6
	302	BD2.1	3	1st cent. BC/AD	4.3	5.4	79.6
	303	BD2.1	3	1st cent. BC/AD	4.2	5.3	79.2
	304	BD4.2	3	1st cent. BC/AD	4.2	5.3	79.2
	306	BD2.1	3	1st cent. BC/AD	4.7	5.9	79.7
	307	BD4.2	3	1st cent. BC/AD	4.3	5.1	84.3
	309	JC3.1	3	1st cent. BC/AD	4.5	7.9	57
	310	JC3.3	3	1st cent. BC/AD	3.1	7.2	43
	311	BD4.1	1.3	1st cent. BC/AD	7.4	7.9	93.7
	312	BC3.51	1.3	1st cent. BC/AD	3.6	4	90
	313	BD4.2	3	1st cent. BC/AD	7.3	8.1	90.1
	314	BC3.51	3	1st cent. BC/AD	3.6	4.2	85.7
	315	BD4.2	3	1st cent. BC/AD	6.5	7.2	90.3
	316	BD4.2	3	1st cent. BC/AD	5.6	6.8	82.4
	317	BD4.2	3	1st cent. BC/AD	5.4	6.3	85.7
	318	BC3.51	3	1st cent. BC/AD	7.4	7.8	94.9
	319	BC3.51	3	1st cent. BC/AD	3.3	4	82.5
	320	JC3.2	3	1st cent. BC/AD	5.1	6.2	82.3
	321	BD4.1	3	1st cent. BC/AD	8.7	9.1	95.6
	322	BD4.1	3	1st cent. BC/AD	5.9	6.3	93.7
	323	BC3.51	3	1st cent. BC/AD	3.8	4.2	90.5
	324	BD4.2	3	1st cent. BC/AD	5.3	6	88.3
	325	BD4.2	3	1st cent. BC/AD	4.6	5.9	78
	326	BD4.2	3	1st cent. BC/AD	5.4	6	90
	327	BD4.2	3	1st cent. BC/AD	5	5.7	87.7
	328	BD5.1	3	1st cent. BC/AD	2.5	3.2	78.1
	329	Lid?	3	1st cent. BC/AD	7.2	7.3	98.6

Table 6.34 The basic information on upper bodies of Iron Age vessels from Suddern Farm (3)

Context	Ceramic No.	Ceramic form	layer	phase	Neck D	Max D	Ratio
P119	330	DA1.2	3	1st cent. BC/AD	9.8	10	
	331	Misc.(Lid?)	1.3	1st cent. BC/AD		7.8	
	332	Lid	3	1st cent. BC/AD		9.9	
	333	Lid	3	1st cent. BC/AD		5.6	
	334	Lid	3	1st cent. BC/AD		8.6	
	335	Lid	3	1st cent. BC/AD		8.8	
	336	Lid	3	1st cent. BC/AD		10.4	
	337	Lid	3	1st cent. BC/AD		5.7	
	339	PL1	3	1st cent. BC/AD		5.8	
	340	PL3	3	1st cent. BC/AD	7.5	7.8	
	341	PL2	3	1st cent. BC/AD	5.1	5.8	
	342	PL2	3	1st cent. BC/AD		9.5	
	343	PL2	3	1st cent. BC/AD	6.3	7.2	
	344	PL2	3	1st cent. BC/AD		7.2	
	345	PL3	3	1st cent. BC/AD		7.5	
	346	PL2	3	1st cent. BC/AD		5.8	
	347	PL3	3	1st cent. BC/AD	7.5	7.8	
	348	PL2	3	1st cent. BC/AD	8.6	9.5	
	349	PL2	3	1st cent. BC/AD	8.3	9.5	
	350	PL2	3	1st cent. BC/AD		8.9	
	351	PL2	3	1st cent. BC/AD		8.5	
	352	PL2	3	1st cent. BC/AD		8.8	
	353	PL2	3	1st cent. BC/AD		8.2	
	354	PL2	3	1st cent. BC/AD	6.7	7.5	
	355	PL2	3	1st cent. BC/AD	8.7	9.2	
	356	PL3	3	1st cent. BC/AD	6.2	6.8	
	357	PL2	3	1st cent. BC/AD	6.9	7.9	
	358	JC3.1	1.3	1st cent. BC/AD	4.8	6.2	77.4
	359	BC3.3	3	1st cent. BC/AD	4.3	6.3	68.3
	360	JC3.1	3	1st cent. BC/AD	7.3	8.7	83.9
	361	JC3.1	3	1st cent. BC/AD	8.8	9.6	91.7
	362	JC3.2	3	1st cent. BC/AD	5.9	6.2	95.2
	363	JC3.1	3	1st cent. BC/AD	6.5	7.7	84.4
	364	JC3.1	3	1st cent. BC/AD	5.8	6.9	84.1
	366	JC3.2	3	1st cent. BC/AD	7.3	8	91.3
	367	JC3.1	3	1st cent. BC/AD	8.3	10	83
	368	BC3.3	3	1st cent. BC/AD	6	6.5	92.3
	369	JC3.2	3	1st cent. BC/AD	5	5.5	90.9
	370	JC3.1	3	1st cent. BC/AD	6.7	8.5	78.8
	371	JC3.1	3	1st cent. BC/AD	7.2	9	80
	372	JC3.1	3	1st cent. BC/AD	8	9.4	85.1
	373	JC3.1	3	1st cent. BC/AD	8.6	9.6	89.6
	375	JD4.11	3	1st cent. BC/AD	3.4	4.2	81
	376	BC3.3	3	1st cent. BC/AD	4.7	5.2	90.4
	381	JE4.3	3	1st cent. BC/AD	3.5	8.2	42.7
	384	JE4.2	3	1st cent. BC/AD	4.4	6.3	69.8
	385	JD4.4	3	1st cent. BC/AD	4.4	7.2	61.1
	392	C	1.3	1st cent. BC/AD	5.4	6.4	84.4
	394	BkA?	3	1st cent. BC/AD	4.3	6.7	64.2
	395	BkA	3	1st cent. BC/AD	3.4	5.5	61.8
F49	478	JC3.1	1	1st cent. AD	7.3	8.1	90.1
	480	JC3.1	1	1nd cent. AD	4	4.3	93
F64	500	JC3.1	1	1st cent. Pre-Flavian	7.6	9.5	80
	501	BD5.1	1	1st cent. Pre-Flavian	8.5	9.7	87.6
	503	JC3.1	1	1st cent. Pre-Flavian	6.1	7.2	84.7
	504	BC3.3	1	1st cent. Pre-Flavian	4.1	5.1	80.4
	505	BC3.3	1	1st cent. Pre-Flavian	5.7	6	95
	508	PL2	1	1st cent. Pre-Flavian		6.4	
	515	JC3.1	2	1st cent. Pre-Flavian	4	4.7	85.1
	516	JC3.1	2	1st cent. Pre-Flavian	9.4	10.1	93.1
	517	JC3.1	2	1st cent. Pre-Flavian	8.7	9.8	88.8
	518	JC3.1	2	1st cent. Pre-Flavian	7.8	10.5	74.3
	519	BC3.3	2	1st cent. Pre-Flavian	4.7	5.7	82.5
	520	BC3.3	2	1st cent. Pre-Flavian	4.5	5.2	86.5
	521	JC3.1	2	1st cent. Pre-Flavian	9	10.1	89.1
	522	JC3.2	2	1st cent. Pre-Flavian	5.6	6.9	81.2
	523	BC3.3	2	1st cent. Pre-Flavian	5.2	5.9	88.1
	524	JC3.1	2	1st cent. Pre-Flavian	5.5	6.2	88.7
	525	JD4.4	2	1st cent. Pre-Flavian	5.9	6.8	86.8
	527	JD4.4	2	1st cent. Pre-Flavian	6.4	7.6	84.2
	528	BD4.2	2	1st cent. Pre-Flavian	5	5.7	87.7
	529	JD4.4	2	1st cent. Pre-Flavian	5.1	6.1	83.6
	530	JE4.3	2	1st cent. Pre-Flavian	4	6	66.7
	531	JE4.2	2	1st cent. Pre-Flavian	4.6	5.4	85.2
	532	C	2	1st cent. Pre-Flavian	4.7	5.2	90.4

Table 6.35 The basic information on upper bodies of Iron Age vessels from Suddern Farm (4)

Context	Ceramic No.	Ceramic form	layer	phase	Neck D	Max D	Ratio
F64	533	PL2	2	1st cent. Pre-Flavian		9.5	
	534	Lid	2	1st cent. Pre-Flavian		9.9	
	535	PL3	2	1st cent. Pre-Flavian		7.1	
	536	PL2	2	1st cent. Pre-Flavian		6.8	
	537	PL2	2	1st cent. Pre-Flavian		6.5	
	538	PL2	2	1st cent. Pre-Flavian	5.4	6.2	
	540	PL2	2	1st cent. Pre-Flavian		7.1	
	541	Lid	2	1st cent. Pre-Flavian	6.7	6.8	98.5
	542	PL2	2	1st cent. Pre-Flavian		6.2	
	543	Lid	2	1st cent. Pre-Flavian	7.9	8.1	
	545	PL/Lid	2	1st cent. Pre-Flavian	7.2	7.5	96
	546	PL2	2	1st cent. Pre-Flavian		6.5	
	550	BkA	2	1st cent. Pre-Flavian	3.6	4.4	81.8
	557	JC3.1	3	1st cent. Pre-Flavian	8.9	9.9	89.9
	558	BC3.3	3	1st cent. Pre-Flavian	3.8	4.7	80.9
	559	BC3.3	3	1st cent. Pre-Flavian	6.8	7.8	87.2
	560	JD4.5	3	1st cent. Pre-Flavian	6.1	7	87.1
	562	JC3.1	4	1st cent. Pre-Flavian	4.5	7.2	62.5
	564	JC3.1	4	1st cent. Pre-Flavian	6.6	8.3	79.5
	565	JC3.2	4	1st cent. Pre-Flavian	8.9	9.7	91.8
	569	JC3.1	5	1st cent. Pre-Flavian	3.7	4.6	80.4
	570	BD5.1	5	1st cent. Pre-Flavian	7.4	8.5	87.1
	571	JC3.2	5	1st cent. Pre-Flavian	8.7	9.9	87.9
	572	BC3.3	5	1st cent. Pre-Flavian	5.7	6.1	93.4
	573	JC3.2	5	1st cent. Pre-Flavian	6	6.5	92.3
	574	JC3.2	5	1st cent. Pre-Flavian	5.7	7.1	80.3
	577	JD4.4	5	1st cent. Pre-Flavian	5.2	6.2	83.9
	579	BC3.2	5	1st cent. Pre-Flavian	6.1	7.2	84.7
	583	PL1	5	1st cent. Pre-Flavian	7	7.1	98.6
	585	PL2	5	1st cent. Pre-Flavian		6.8	

Table 6.36 The classification table of the vessels from Suddern Farm (1)

Categories ①②

Form No.	Surface	Body	Rim	other characteristic attributes
1	Plain	Rounded	minimal	
2	Plain	Rounded	long & middle	
3	Plain	Rounded	middle	straight rim & body
4	Decorative	Rounded	minimal	
5	Decorative	Rounded	minimal	straight body
6	Decorative	Rounded	short	

Category ④

Form No.	Surface	Body	Rim	other characteristic attributes
1	Plain	Rounded	open (non-neck)	vertical body (small)
2	Plain	Rounded	open (non-neck)	vertical body (large)
3	Plain	Rounded	open (non-neck)	straight body
4	Plain	Rounded	open (non-neck)	straight body, minimal top
5	Plain	Rounded	open (non-neck)	round top
6	Plain	Rounded	open (non-neck)	projecting outwards top
7	Plain	Rounded	open (non-neck)	projecting inwards top
8	Plain	Inflectional	open (non-neck)	
9	Plain	Inflectional	open (non-neck)	flat bottom
10	Decorative	Inflectional	open (non-neck)	linear pattern
11	Decorative	Inflectional	open (non-neck)	wavy pattern
12	Decorative	Rounded	open (non-neck)	projecting outwards top
13	Decorative	Rounded	open (non-neck)	linear pattern
14	Decorative	Rounded	open (non-neck)	vertical body (small)
15	Decorative	Rounded	open (non-neck)	vertical body (large)

Table 6.37 The classification table of the vessels from Suddern Farm (2)

Category ③

Form No.	Surface	Body	Rim	other chracteristic attributes
1	Plain	Rounded	long	
2	Plain	Rounded	middle	
3	Plain	Rounded	short & minimal	small to large
4	Plain	Rounded	minimal	deep
5	Plain	Inflectional	minimal	long & straight neck
6	Plain	Inflectional	long	vertical rim
7	Plain	Rounded	long & middle	vertical rim
8	Plain	Rounded	minimal	
9	Plain	Rounded	short	straight body
10	Plain	Rounded	long	
11	Plain	Rounded	middle	
12	Plain	Rounded	short & minimal	high-shouldered
13	Plain	Rounded	minimal	vertical body (shallow)
14	Plain	Rounded	minimal	vertical body (deep)
15	Plain	Rounded	minimal	small to large
16	Plain	Rounded	minimal	small, deeper
17	Plain	Rounded	minimal	small to large
18	Plain	Rounded	minimal	small, shallow
19	Plain	Inflectional	minimal	
20	Plain	Rounded	minimal	small to large, deeper
21	Plain	Inflectional	short	shallower
22	Plain	Inflectional	minimal	shallower
23	Plain	Inflectional	middle	shallow
24	Plain	Rounded	short	shallow, short shoulder
25	Plain	Rounded	minimal	small body
26	Plain	Rounded	minimal	non-swollen body
27	Plain	Rounded	minimal	thick top
28	Plain	Rounded	long	high-shouldered
29	Decorative	Rounded	short	straight body, linear patterns
30	Decorative	Rounded	middle	various patterns
31	Decorative	Rounded	short	dots
32	Decorative	Rounded	short	wavy pattern
33	Decorative	Rounded	minimal	vertical body
34	Decorative	Rounded	minimal	grooves & linear pattern

Table 6.38 The information on the number of vessels from Suddern Farm

Category	number of vessels	%	number of Forms	average number
①②	7	4	3	2.3
④	38	19	8	6
③	153	77	26	6.1
total	**198**	**100**	**37**	**4.8**

Table 6.39 The selected major vessel forms in Suddern Farm

Category	Form No.	Rim	Body	Vessel Number
①②	1	minimal	curved	2
	2	long & middle	curved	3
	4	minimal	Decoration	2
④	3	open	straight	7
	9	open	Inflectional	12
	11	open	Decoration & Inflectional	16
③	1	long	shallower	8
	3	short & minimal	shallower	15
	12	short & minimal	high-shouldered	5
	17	minimal	loosely curved	11
	15	minimal	loosely curved (perfect condition)	8
	13	minimal	vertical	10
	8	minimal	deeper, non-swollen	7
	20	minimal	deeper	31
	34	minimal	Decoration	7

Table 6.40 Information on vessels from Houghton Down

ID No.	classification	Neck D	Max D	N / M	features	layer	period
24	BA2.3	3.2	3.8	84.2	P301	1	EIA
25	BA2.1	6.6	7	94.3	P301	2	EIA
29	BA2.1	5.1	5.4	94.4	P301	5	EIA
30	JB2.3	5.7	6	95	P301	6	EIA
32	JB2.3	4.7	6.2	75.8	P302	2	EIA
37	JB2.1	4.2	5	84	P303	1/3/9	EIA
38	BA2.3	4.2	4.8	87.5	P303	1	EIA
40	JB2.3	3.6	4.2	85.7	P303	2	EIA
42	PA1.2	5.2	5.7	91.2	P303	2	EIA
43	JB2/3	3.5	4	87.5	P303	2	EIA
46	JG1	8.9	9.2	96.7	P306	5	EIA
47	JB4.1	4.8	5.3	90.6	P312	6/7	EIA
48	PA2.1	5.7	6.6	86.4	P312	7/9	EIA
49	PA2.1	3.8	3.9	97.4	P312	7	EIA
50	PA1.2	3.8	3.9	97.4	P312	11	EIA
227	JB4.1	4.8	5.4	88.9	P312	8/9	EIA
55	PA1.2	7.1	7.4	95.9	P320	2	EIA
57	PA2.1		5.1		P321	3	EIA
58	JC1.1	6.5	7	92.9	P321	4	EIA
63	JC2.2	5.5	6.2	88.7	P321	6	EIA
65	PA2.1		5.4		P321	5/8/9	EIA
66	JC1.1	8.7	9.6	90.6	P321	6/8	EIA
67	PA2.1		6.9		P321	9	EIA
88	JB2	3.6	3.8	94.7	P340	2	EIA
89	JB2	7.3	8	91.3	P340	3/4	EIA
90	JB4.0	4.1	4.4	93.2	P340	3	EIA
92	PA2.1		5.5		P340	3	EIA
95	JB2.2	6.8	7.6	89.5	P340	5	EIA
224	JB2.3	8.8	9.8	89.8	F253	4	EIA
225	JC	10.6	13.6	77.9	F253	4	EIA
70	PB1.1	5.9	6		P331	8/9/10	MIA
71	PB1.1	3.7	3.8		P331	9	MIA
74	JC2.0	6.1	7	87.1	P331	1	MIA
75	JC2.0	6.4	7.1	90.1	P331	3	MIA
80	PB1.1	8.7	8.8	98.9	P331	8	MIA
83	PB1.1		5.9		P331	8	MIA
84	JC2.1	12.9	14.7	87.8	P331	8	MIA
195	PB1.1	4.3	4.7	91.5	F241	1	MIA
200	PB1.1	6	6.4	93.8	F241	3	MIA
205	PB1.1	4.6	4.8	95.8	F241	5	MIA
206	PB1.1	4.5	5.2	86.5	F241	7	MIA
207	PB1.1	6.1	6.7	91	F241	7	MIA
208	PB1.1	6.2	6.8	91.2	F241	7/8	MIA
211	JC2.0	8.6	9.3	92.5	F241	8	MIA
212	PB1.1	5.5	6	91.7	F241	8/9	MIA
214	JC2.1	7	7.8	89.7	F241	8/10	MIA
215	PB1.1		6.1		F241	8/9/10	MIA
216	PB1.1		4.1		F241	10	MIA
217	PA3.1	5.4	5.8	93.1	F241	10	MIA
104	PB1.1	7.4	7.8	94.9	P348	3	LIA
114	PB1.1	6	6.1	98.4	P364	2	LIA
115	PB1.1		4.4		P364	4	LIA
120	PB1.1	7.4	7.9	93.7	P364	8	LIA
121	PB1.1		4.9		P364	7	LIA
124	PB1.1	5.5	5.9	93.2	P364	9	LIA
128	PB1.1	6.1	6.2	98.4	P364	9/13	LIA
182	JC3.1	5.4	6.3	85.7	F227	1	LIA
184	BD4.2	5	6	83.3	F227	1	LIA
185	BD4.2	5.3	6.8	77.9	F227	1	LIA
187	Lid		10.4		F227	1	LIA
189	JC3.1	6.3	7.7	81.8	F227	1	LIA
190	JE4.1	4.3	5.5	78.2	F227	1	LIA
191	Lid		10.3		F227	1	LIA
193	BD4.2	5	5.4	92.6	F227	1	LIA
138	BB1.1	3.5	3.9	89.7	F180	3	LIA/Roman
145	BC3.43	10.9	11.3	96.5	F184/1	upper fill	LIA/Roman
265	JR3.4	4.3	6.2	69.4	F188/1	upper fill	LIA/Roman
271	BE2	2.2	3.1	71	F188/1	upper fill	LIA/Roman
159	JC3.1	4.7	5.9	79.7	F197/1	upper fill	LIA/Roman
152	JC3.1	5.4	6.1	88.5	F188/2	lower fills	LIA/Roman
146	PA2.1	5.6	5.7	98.2	F187/2	lower fills	LIA/Roman
273	-	7.4	8.7	85.1	F275	-	LIA/early Roman

Table 6.41 List of vessels comparable on stratigraphy in Houghton Down

Feature	Lower layer	Upper layer	Form	Changing points
P 301	No. 29 (layer 5)	No. 25 (layer 2)	③-1	strongly inclined outwards rim → somewhat inclined rim
P 331	No. 80 (layer 8)	No. 75 (layer 3)	③-13	vertical body → somewhat inclined inwards body

Table 6.42 The classification table of the vessels from Houghton Down

Category	Form	Surface	(Upper) Body	Neck to Rim
①	1	Plain	Inflectional: straight.	Simple.
	2	Plain	Rounded: loosely curved.	Curved outwards.
②	1	Plain	Rounded: high-shouldered.	Minimal.
	2	Plain	Rounded: curved.	Short and upstanding, but slightly leans outwards.
	3	Plain	Rounded: curved.	Minimal.
	4	Plain	Rounded: loosely curved.	Minimal.
	5	Decorative	Rounded: loosely curved. One vertical cordon.	Curved outwards.
③	1	Plain	Inflectional: straight and short.	Long and straight, but leans outwards.
	2	Plain	Inflectional: straight and short.	Long and upstanding.
	3	Plain	Rounded: straight. * shallower, compared with From 4	Long and straight, but leans outwards.
	4	Plain	Rounded: straight. * deeper, compared with Form 3	Long and straight, but slightly leans outwards.
	5	Plain	Rounded: loosely curved and short.	Straight, but leans outwards.
	6	Plain	Rounded: curved and short.	Upstanding and bent outwards.
	7	Plain	Rounded: loosely curved.	Long and straight, but leans outwards.
	8	Plain	Rounded: loosely curved.	Curved outwards. (or upstanding and bent outwards.)
	9	Plain	Rounded: loosely curved.	Upstanding.
	10	Plain	Rounded: shortly curved.	Short or Minimal and upstanding, but slightly leans outwards.
	11	Plain	Rounded: loosely curved.	Minimal.
	12	Plain	Rounded: loosely curved and relatively vertical.	Simple or Minimal.
	13	Plain	Rounded: straight.	Simple or Minimal.
	14	Plain	Rounded: loosely curved and slightly inclined outwards, but the upper part is vertical.	Simple.
	15	Plain	Rounded: loosely curved and vertical.	Minimal, and the top is flat and extends outwards.
	16	Plain	Rounded: high-shouldered.	Minimal.
	17	Decorative	Inflectional: straight. One horizontal cordon.	Long and straight, but leans outwards.
	18	Decorative	Rounded: curved. Successive vertical lines.	Straight, but leans outwards.
	19	Decorative	Rounded: loosely curved and vertical. Decoration patterns composed of straight and curved lines.	Minimal.
	20	Decorative	Rounded: straight and vertical, sometimes slightly inclined inwards. Successive semicircle lines.	Simple or Minimal.
④	1	Plain	Rounded: loosely curved and slightly inclined outwards, but the upper part is vertical..	Simple.
	2	Plain	Rounded: straight and vertical, but slightly inclined outwards.	Simple or Minimal.
	3	Decorative	Rounded: straight and inclined outwards. Pairs of vertical lines.	Simple.
	4	Decorative	Rounded: straight and vertical, but slightly inclined outwards. Successive semicircle lines.	Simple.

Table 6.43 Categories of the vessels from Houghton Down

Category	Ratio (%)
①	69.4 - 71
②	75.8 - 79.7
③	81.8 - 98.9
④	-

* Ratio: Ratios of Neck diameters to Max diameters of vessels

Table 6.44 Information on the number of vessels from Houghton Down

Category	Total number of vessels	Number of Forms	Average number of vessels	Major Form No.
①	2	2	**1**	1, 2
②	5	5	**1**	1, 2, 3, 4, 5
③	52	20	**2.6**	9, 10, 12, 13, 14
④	13	4	**3.3**	2

Table 6.45 The fundamental classification of the major Forms in Houghton Down

Form	Plain	Decorative	Rounded	Inflectional
③-9				
③-10				
③-12				
③-13				
③-14				
④-2				

Table 6.46 Information on vessels from Woolbury

Ceramic No.	feature	phase	Neck D	Max D	Neck/Max (%)
11	P1	cp 3-4 (Early)	7.3	9.1	80.2
12	F5	cp 6-7 (Middle to Late)	5.8	6.1	95.1
5	F15	cp 6-7 (Middle to Late)		4.8	
34	F15	cp 6-7 (Middle to Late)		5.1	
35	F15	cp 6-7 (Middle to Late)	3.1	3.7	83.8
36	F15	cp 6-7 (Middle to Late)	3.7	4	92.5
202	F15	cp 6-7 (Middle to Late)	7.4	13.3	55.6
133	F1(layer 40)	first century BC/AD	4	5.3	75.5
134	F1(layer 40)	first century BC/AD	5.4	6.6	81.8
135	F1(layer 40)	first century BC/AD	4.5	5.1	88.2
139	F1 (layer 44)	first century BC/AD	5.3	6.1	86.9
141	F1 (layer 33,66,38)	early Roman	4.8	5.6	85.7
142	F1 (layer 33,66,38)	early Roman	6.8	7.7	88.3
143	F1 (layer 33,66,38)	early Roman	5.5	6.1	90.2
147	F1 (layer 33,66,38)	early Roman	3.9	8.3	47
148	F1 (layer 33,66,38)	early Roman		4.8	
151	F1 (layer 33,66,38)	early Roman	4.7	5.5	
154	F1 (layer 33,66,38)	early Roman	6.3	6.5	
158	F1 (layer29)	early Roman	5.1	6	85
159	F1 (layer29)	early Roman	6.8	8.2	82.9
160	F1 (layer29)	early Roman	6.5	7.5	86.7
171	F1 (layer29)	early Roman		6.1	
172	F1 (layer29)	early Roman	4.3	5.1	
201	F1 (layer29)	early Roman		6.9	
4	F1 (layer 21)	early Roman	6.7	8.6	77.9
28	F1 (layer 21)	early Roman	6.2	6.4	96.9
30	F1 (layer 21)	early Roman	3.7	4	92.5
37	F1 (layer 13)	early Roman	4.7	5	94
39	F1 (layer 13)	early Roman		6.1	
40	F1 (layer 13)	early Roman	5.8	6.9	84.1
44	F1 (layer 13)	early Roman		6.5	
27	F1 (layer 12,2)	early Roman	3.6	4.7	76.6
194	Enclosure1, phase c	cp 8-9 (Latest)	2.9	5.4	53.7
191	Enclosure1, phase e	cp 8-9 (Latest)	4.8	5.4	88.9
192	Enclosure1, phase e	cp 8-9 (Latest)	7	7.8	89.7
175	Enclosure1, phase f	early Roman	5.5	6.8	80.9

Table 6.47 The classification table of the vessels from Woolbury

Category	Form	Surface	(Upper) Body	Neck to Rim
①	1	Plain	Rounded: loosely curved	Short, curved outwards.
	2	Decorative	Rounded: curved. * successive oblique lines. *	Minimal and upright inwards
	3	Decorative	Rounded: curved *large, a decoration band composed of laterally straight and curved lines	Simple.
②	1	Plain	Rounded: high-shouldered.	Long: upright and somewhat slant outwards
	2	Plain	Rounded: loosely curved	Long: upright outwards, the top is bent outwards.
	3	Plain	Rounded: high-shouldered	Short (smaller size), Minimal (larger size).
	4	Plain	Rounded: vertical and slant inwards	Simple
	5	Plain	Rounded: vertical and convex * small and large	Simple.
	6	Plain	Rounded: loosely curved *small	Minimal
	7	Plain	Rounded: curved	Minimal
	8	Plain	Rounded: loosely curved *small	Short: upright outwards
	9	Plain	Rounded: short	Minimal
	10	Plain	Inflectional: straight	Short: curved outwards
	11	Plain	Inflectional: vertical	Short: curved outwards
	12	Decorative	Rounded: loosely curved *lattice motif	Middle: strongly curved outwards
	13	Decorative	Rounded: high-shouldered * one horizontal groove	Long: strongly curved outwards
③	1	Plain	Inflectional: straight and slant outwards	Simple
	2	Plain	Rounded: loosely curved and slant outwards	Simple
	3	Plain	Rounded: straight and strongly slant outwards	Simple
	4	Decorative	Inflectional: straight and vertical. * a certain attachment	Straight and somewhat horizontal
	5	Decorative	Inflectional: straight and vertical without a neck * zigzag motif	Simple
	6	Decorative	Rounded: straight and vertical	Minimal and protruding * impressions just below a rim
	7	Decorative	Rounded: straight and vertical without a neck *decoration bands just below an outside rim, which consist of successive oblique lines between horizontal impression lines	Simple

Table 6.48 Information on the number of vessels from Woolbury

Category	number of vessels	number of Forms	average number
①	3	3	1
②	23	13	1.8
③	10	7	1.4
Total	**36**	**24**	**1.9**

Table 6.49 Information on vessels from Nettlebank Copse (1)

ID No.	classification	Neck D	Max D	N / M	features	layer	period
5	BA2.3	3.9	4.3	90.7	P253	2	EIA
12	BA2.1	6.1	6.5	93.8	P259	1/3	EIA
23	JB2.3	4	5	80	P262	2	EIA
35	JB1.2	6.8	7.3	93.2	P266	3	EIA
42	JB1.1	7	7.5	93.3	P273	6	EIA
43	JB2.2	4.2	4.7	89.4	P273	13	EIA
44	BA2.1	7.4	7.6	97.4	P273	8/9/10/11	EIA
46	BA2.1	6.5	7	92.9	P273	13	EIA
71	JB4.0	3.7	3.9	94.9	P282	2	EIA
72	JC1.1	5.6	6.1	91.8	P282	2	EIA
75	JB2.2	5.7	6.4	89.1	P292	2	EIA
26	JB4	6.8	7.2	94.4	P264	1	E/MIA
53	JB2.3	3.9	4.8	81.3	P275	2	E/MIA
55a	PB1.1		3.4		P275	8	E/MIA
61	JB2/3	5.9	6.4	92.2	P275	4	E/MIA
8	JC1.1	8.7	9.6	90.6	P255	1	MIA
9	JB4	6.4	6.9	92.8	P255	3	MIA
450	BD4.2	4.6	5.1	90.2	P255	1	MIA
15	JB3.1	5.8	6.4	90.6	P261	2	MIA
17	BB3.1	7.9	8.5	92.9	P261	4	MIA
21	BA2.1	5.3	6.2	85.5	P261	9	MIA
22	BA2.1	6.4	6.8	94.1	P261	10	MIA
435	PB1.1		5.4		F148 B/0	13	MIA
443	PL3	4.4	4.7		P251	1	LIA
444	Misc.	5.6	6.6	84.8	P251	1	LIA
445	BC3.3	5.3	6.1	86.9	P251	1	LIA

Table 6.50 Information on vessels from Nettlebank Copse (2)

ID No.	classification	Neck D	Max D	N / M	features	layer	period
291	JC3.1	4.7	5.5	85.5	F148/36	7	LIA
294	JC3.1	6.3	7.7	81.8	F148/36	8	LIA
297	JC3.1	8.2	10.4	78.8	F148/36	8	LIA
298	JC3.1	6.5	7.4	87.8	F148/36	13	LIA
413	PB1.1		5.8		F155/20	4	LIA
417	JC3.1	5.1	6.5	78.5	F155/20	6	LIA
418	BC3.3	5	5.7	87.7	F155/24	2	LIA
423	BD4.2	5.6	6.4	87.5	F155/28	6	LIA
425	JC3.1	4.6	5.7	80.7	F155/32	1	LIA
426	JC3.1	5.5	6.7	82.1	F155/32	2/3	LIA
429	JD3.1	4.4	9.2	47.8	F155/32	8	LIA
430	BD1.1	5.6	6.7	83.6	F155/32	8	LIA
438	JE1.1	4.2	5.1	82.4	P244	1	LIA/early Roman
440	Lid		8.5		P244	2	LIA/early Roman
441	BC3.3	4.1	4.7	87.2	P244	2	LIA/early Roman
442	BC3.51	5.7	6.6	86.4	P244	2	LIA/early Roman
463	BO7	5.4	6.1	88.5	P244	2	LIA/early Roman
447	BC3.3	3.4	3.8	89.5	P274	2	LIA/early Roman
63	JC3.1	6.6	8.3	79.5	P276	1	LIA/early Roman
78	BC3.3	5.8	7.8	74.4	F148 A/0	1	LIA/early Roman
83	BD4.2	4.6	5.4	85.2	F148 A/0	5	LIA/early Roman
84	JE4.2	8.2	8.8	93.2	F148 A/0	5	LIA/early Roman
90	BC3.3	5.5	6.2	88.7	F148 A/0	5	LIA/early Roman
91	BC3.3	4.5	5.4	83.3	F148 A/0	5	LIA/early Roman
92	BC3.3	5	5.4	92.6	F148 A/0	5	LIA/early Roman
93	PL2	4.8	5.1		F148 A/0	5	LIA/early Roman
94	Lid	8	8.2		F148 A/0	5	LIA/early Roman
95	JC3.1	7.4	10.4	71.2	F148 A/0	5	LIA/early Roman
100	BC3.3	6.1	6.5	93.8	F148 A/0	8	LIA/early Roman
101	JC3.1	8.8	10.8	81.5	F148 A/0	8	LIA/early Roman
102	Lid		8.9		F148 A/0	8	LIA/early Roman
107	Lid	8.3	8.5	97.6	F148 A/0	9	LIA/early Roman
112	JC3.1	6.3	8.2	76.8	F148 A/0	9	LIA/early Roman
116	JC3.1	6.7	8.3	80.7	F148 A/0	9	LIA/early Roman
506	Lid		8.5		F148 A/0	4	LIA/early Roman
507	JC3.1	6.4	8.2	78	F148 A/0	4	LIA/early Roman
508	BD4.2	4	4.8	83.3	F148 A/0	4	LIA/early Roman
510	JR3.1	4	5.4	74.1	F148 A/0	4	LIA/early Roman
513	JR3.1	8.6	9.8	87.8	F148 A/0	5	LIA/early Roman
514	BO7	3.9	4.2	92.9	F148 A/0	5	LIA/early Roman
515	JR3.3	4.8	5.9	81.4	F148 A/0	5	LIA/early Roman
118	Lid		6.1		F148/4	4	LIA/early Roman
122	BC3.3	4	4.3	93	F148/4	6	LIA/early Roman
123	BC3.3	5.2	6.2	83.9	F148/4	6	LIA/early Roman
130	JC3.1	6.4	7.8	82.1	F148/8	3	LIA/early Roman
131	JE4.2	6.2	6.9	89.9	F148/8	3	LIA/early Roman
133	JC3.1	6.8	7.3	93.2	F148/12	2	LIA/early Roman
139	BC3.3	5.1	7.1	71.8	F148/12	5	LIA/early Roman
140	BD2.1	4.5	5.7	78.9	F148/12	5	LIA/early Roman
141	JC3.1	5.7	6.8	83.8	F148/12	5	LIA/early Roman
486	BD4.2	5.2	5.8	89.7	F148/12	1	LIA/early Roman
488	BC3.2	6.4	7.3	87.7	F148/12	1	LIA/early Roman
489	JC3.1	7.6	9.2	82.6	F148/12	1	LIA/early Roman
490	JR3.1	5.3	6.8	77.9	F148/12	2/3	LIA/early Roman
491	BO7	6.5	7.4	87.8	F148/12	3	LIA/early Roman
493	JR3.3	4.3	5.8	74.1	F148/12	5	LIA/early Roman
143	JC3.1	7.1	7.8	91	F148/16	2	LIA/early Roman
146	JC3.1	5.2	5.8	89.7	F148/16	3	LIA/early Roman
148	Lid		9.2		F148/16	3	LIA/early Roman
150	JC3.1	5.3	7	75.7	F148/16	4	LIA/early Roman
152	JC3.2	3.1	3.5	88.6	F148/16	4	LIA/early Roman
154	BD4.2	5.3	5.7	93	F148/16	4	LIA/early Roman
155	JC3.1	8.8	10.5	83.8	F148/16	4	LIA/early Roman
163	BD4.2	5	6	83.3	F148/16	5	LIA/early Roman
164	JC3.1	4.8	5.5	87.3	F148/16	7	LIA/early Roman
500	JR3.1	6	7.6	78.9	F148/16	4	LIA/early Roman
505	BC3.2	4.1	4.6	89.1	F148/16	5	LIA/early Roman
178	JC3.1	5.5	7.3	75.3	F148/20	1	LIA/early Roman
180	JC3.1	6.6	8	82.5	F148/20	1	LIA/early Roman
182	JD4.42	4.7	5.6	83.9	F148/20	1	LIA/early Roman
185	BD4.4	6	8	75	F148/20	1	LIA/early Roman
188	BD4.2	5.1	5.9	86.4	F148/20	2	LIA/early Roman
192	BC3.3	3.5	4.7	74.5	F148/20	2	LIA/early Roman
194	JC3.1	6.4	9.2	69.6	F148/20	2	LIA/early Roman

Table 6.51 Information on vessels from Nettlebank Copse (3)

ID No.	classification	Neck D	Max D	N / M	features	layer	period
195	PL2	6.8	7.4		F148/20	2/4	LIA/early Roman
197	JC3.1	4.9	6.5	75.4	F148/20	4	LIA/early Roman
201	BC3.3	5.5	6.4	85.9	F148/20	4	LIA/early Roman
206	JD4.4	5	5.6	89.3	F148/20	4	LIA/early Roman
208	BD4.2	3	3.5	85.7	F148/20	4	LIA/early Roman
209	BD4.2	6.5	8.2	79.3	F148/20	4	LIA/early Roman
210	BC3.51	5.1	5.9	86.4	F148/20	4	LIA/early Roman
212	JC3.1	7.3	8.8	83	F148/20	5	LIA/early Roman
213	JC3.1	6	7.5	80	F148/20	5	LIA/early Roman
214	JC2.3	4.5	6.7	67.2	F148/20	5	LIA/early Roman
220	JE4.2	5.4	5.9	91.5	F148/20	5	LIA/early Roman
221	BD4.2	5.4	5.9	91.5	F148/20	5	LIA/early Roman
222	JE4.1	7.4	9.6	77.1	F148/20	5	LIA/early Roman
224	PB1.1	4.8	4.9	98	F148/20	7	LIA/early Roman
225	BC3.3	4	4.5	88.9	F148/20	7	LIA/early Roman
226	PL2	7.4	8.1		F148/20	7	LIA/early Roman
235	BC3.3	3	3.9	76.9	F148/24	2	LIA/early Roman
240	JC2.3	6.1	8	76.3	F148/24	2	LIA/early Roman
241	JC3.1	7.4	8.4	88.1	F148/24	2	LIA/early Roman
242	JC3.2	7.4	10.4	71.2	F148/24	3	LIA/early Roman
243	JC3.2	4.2	5.3	79.2	F148/24	3	LIA/early Roman
244	BC3.3	3.4	4.2	81	F148/24	3	LIA/early Roman
250	BC3.3	5.7	6.4	89.1	F148/28	2	LIA/early Roman
251	JC3.1	6.4	7.7	83.1	F148/28	2	LIA/early Roman
256	BC3.3	6.1	7.5	81.3	F148/28	2	LIA/early Roman
258	BC3.3	6.4	7.4	86.5	F148/28	2	LIA/early Roman
260	BC3.2	6.8	7.1	95.8	F148/28	4	LIA/early Roman
262	BC3.3	5.9	7.7	76.6	F148/28	4	LIA/early Roman
266	Lid		8.2		F148/28	6	LIA/early Roman
267	Lid		6.8		F148/28	6	LIA/early Roman
269	JC3.1	6	6.8	88.2	F148/32	3	LIA/early Roman
270	JC3.1	7	8.7	80.5	F148/32	3	LIA/early Roman
272	BD4.2	5.3	6.2	85.5	F148/32	4	LIA/early Roman
280	JC3.1	5.5	6.7	82.1	F148/32	7	LIA/early Roman
285	BD4.2	3.6	4.2	85.7	F148/32	7	LIA/early Roman
286	PL2	6.6	7.2		F148/32	7	LIA/early Roman
300	JC3.1	5.1	6.4	79.7	F149/4	1	LIA/early Roman
301	JC3.2	4.3	5.4	79.6	F149/4	1	LIA/early Roman
303	JC3.1	5.9	7.5	78.7	F149/4	1	LIA/early Roman
317	JC3.1	5.7	6.5	87.7	F151	1	LIA/early Roman
314	JD4.5	6.6	9.4	70.2	F154	2	LIA/early Roman
478	JR3.1	7.4	10.2	72.5	F154	2	LIA/early Roman
333	JC2.3	5.1	5.9	86.4	F155/4	2	LIA/early Roman
335	BD4.2	4.9	5.7	86	F155/4	2	LIA/early Roman
336	JE1.1	3.6	10.8	33.3	F155/4	2	LIA/early Roman
344	JD4.4	5.3	6	88.3	F155/4	5	LIA/early Roman
356	BC3.3	3.7	4.5	82.2	F155/8	1	LIA/early Roman
358	JC3.2	4.9	6.5	75.4	F155/8	3	LIA/early Roman
361	JC3.1	5	6.4	78.1	F155/8	3	LIA/early Roman
362	JC3.1	10.2	11.9	85.7	F155/8	3	LIA/early Roman
365	JC3.2	4.8	5.6	85.7	F155/8	4	LIA/early Roman
366	JC3.2	4.8	5.6	85.7	F155/8	4	LIA/early Roman
367	JC3.1	4.1	4.8	85.4	F155/8	4/5/6	LIA/early Roman
374	JC3.1	4.6	5.9	78	F155/8	5	LIA/early Roman
376	JC3.1	6.6	8.9	74.2	F155/8	6	LIA/early Roman
378	JE4.1	5	6.4	78.1	F155/12	1	LIA/early Roman
382	BC3.2	4.6	5.1	90.2	F155/12	3	LIA/early Roman
386	JB2.2	5	5.4	92.6	F155/12	5	LIA/early Roman
391	BC3.51	7.1	8.5	83.5	F155/12	5	LIA/early Roman
392	JC3.2	4.4	5.5	80	F155/12	5	LIA/early Roman
393	BC3.3	5.4	6	90	F155/12	5	LIA/early Roman
394	JC4.21	5.9	9.8	60.2	F155/12	5	LIA/early Roman
398	BD2.1	5	5.6	89.3	F155/16	3	LIA/early Roman
403	PB1.1		5.8		F155/16	5	LIA/early Roman
404	JC2.2	5.5	6.4	85.9	F155/16	5	LIA/early Roman
406	JC3.1	6.2	8.6	72.1	F155/16	5	LIA/early Roman
407	JD4.4	5.5	6.8	80.9	F155/16	5	LIA/early Roman
410	BC3.3	5.1	5.9	86.4	F155/16	5	LIA/early Roman
469	JC3.1	7.8	9.1	85.7	F156	1	LIA/early Roman
471	JR3.1	4.7	5.7	82.5	F156	1	LIA/early Roman
473	JR3.3	5.2	6	86.7	F156	1	LIA/early Roman
518	Lid		8.1		F156	1	LIA/early Roman
319	BD4.2	3.9	4.5	86.7	F165	1	LIA/early Roman
322	BC3.3	3.9	4.6	84.8	F165	1	LIA/early Roman

Table 6.52 List of vessels comparable on stratigraphy in Nettlebank Copse

Feature	Lower layer	Upper layer	Form	Changing points
F 148/16	No. 505 (layer 5)	No. 155 (layer 4)	⑤-13	non-swollen body → swollen body
F 148/28	No. 260 (layer 4)	No. 258 (layer 2)	⑤-14	non-swollen body → swollen body
F 148 A/0	No. 112 and 116 (layer 9)	No. 507 and 510 (layer 4)	⑤-18	distinctive small upstanding rims → minute rims
F 148/24	No. 243 (layer 3)	No. 240 (layer 2)	⑤-19	minute rims →distinctive small upstanding rim

Table 6.53 Categories of the vessels from Nettlebank Copse

Category	Ratio (%)
①	33.3
②	47.8
③	60.2
④	67.2 - 72.5
⑤	74.1 - 95.8
⑥	97.4 - 98
⑦	-

* Ratio: Ratios of Neck diameters to Max diameters of vessels

Table 6.54 The classification table of the vessels from Nettlebank Copse (1)

Category	Form	Surface	(Upper) Body	Neck to Rim
①		Decorative	Rounded: curved. A few horizontal grooves.	Curved outwards.
②		Plain	Rounded: curved.	Short and upstanding.
③		Decorative	Rounded: curved. One horizontal cordon	Minimal.
④	1	Plain	Rounded: loosely curved.	Minimal.
	2	Plain	Rounded: curved.	Short and upstanding.
	3	Plain	Rounded: high-shouldered	Short and upstanding, or Minimal.
⑤	1	Plain	Inflectional: straight and short.	Straight, but leans outwards.
	2	Plain	Inflectional: straight and short.	Curved, and slightly leans outwards
	3	Plain	Inflectional: straight and short.	Short and upstanding, but slightly leans outwards.
	4	Plain	Inflectional: straight and short.	Simple.
	5	Plain	Rounded: loosely curved and relatively vertical.	Short and upstanding.
	6	Plain	Rounded: loosely curved and relatively vertical.	Simple.
	7	Plain	Rounded: loosely curved, but short, and relatively vertical.	Short and upstanding.
	8	Plain	Rounded: loosely curved, but short, and relatively vertical.	Short and upstanding, but the top is flat and extends towards the inside and outside.
	9	Plain	Rounded: loosely curved and relatively vertical.	Upstanding and relatively long, but slightly leans outwards
	10	Plain	Rounded: curved and short.	Shortly curved outwards, or upstanding and bent outwards.
	11	Plain	Rounded: curved.	Curved outwards, or upstanding and bent outwards.
	12	Plain	Rounded: loosely curved.	Curved outwards.
	13	Plain	Rounded: loosely curved.	Minimal.
	14	Plain	Rounded: loosely curved, but short.	Minimal.
	15	Plain	Rounded: curved and relatively short. * shallow	Minimal.
	16	Plain	Rounded: curved, but eminently short.	Minimal.
	17	Plain	Rounded: curved and short. * shallow	Short and upstanding.
	18	Plain	Rounded: curved.	Short and upstanding, or Minimal.
	19	Plain	Rounded: high-shouldered.	Short and upstanding, or Minimal.
	20	Decorative	Rounded: curved or loosely curved. A horizontal cordon on a neck, sometimes with horizontal grooves.	Curved outwards, or upstanding and bent outwards.
	21	Decorative	Rounded: straight and short.	Curved outwards. A series of hollows on the top.
	22	Decorative	Rounded: straight and short. Horizontal zigzag lines and one cordon.	Short and upstanding, but leans outwards.
	23	Decorative	Rounded: loosely curved and short. Horizontal straight and wavy lines, and pairs of vertical lines.	Minimal.

Table 6.55 The classification table of the vessels from Nettlebank Copse (2)

Category	Form	Surface	(Upper) Body	Neck to Rim
⑤	24	Decorative	Rounded: loosely curved and short. A horizontal straight line.	Minimal.
	25	Decorative	Rounded: straight. Successive diagonal lines.	Short and upstanding, but leans outwards.
	26	Decorative	Rounded: high-shouldered, horizontal straight lines.	Minimal.
	27	Decorative	Rounded: loosely curved. Successive vertical lines.	Short and upstanding.
	28	Decorative	Rounded: high-shouldered. Successive vertical lines.	Minimal.
⑥	1	Plain	Rounded: straight and vertical.	Simple.
	2	Plain	Inflectional: straight and short.	Short and upstanding, but slightly leans outwards.
	3	Plain	Inflectional: straight and short.	Simple
⑦	1	Decorative	Rounded: straight and vertical, but slightly inclined outwards. A decoration band filled with a series of diagonal lines, just below a rim.	Simple.
	2	Decorative	Rounded: straight and inclined outwards. Horizontal grooves.	Simple.
	3	Decorative	Rounded: loosely curved and strongly inclined outwards. Horizontal grooves.	Simple.
	4	Decorative	Inflectional: straight and slightly inclined outwards. A decoration band filled with a series of V-shaped lines, just below a rim.	Short and upstanding, but slightly leans outwards.
	5	Decorative	Inflectional: straight and relatively vertical. Horizontal grooves.	Short and upstanding
	6	Plain	Rounded: loosely curved and vertical, but slightly inclined outwards.	Simple.
	7	Plain	Rounded: straight and inclined outwards.	Simple.
	8	Plain	Inflectional: straight and slightly inclined outwards.	Simple, but the top is flat.
	9	Plain	Inflectional: straight and inclined outwards.	Simple, but the inside is hollow..

Table 6.56 Information on the number of vessels from Nettlebank Copse

Category	Total number of vessels	Number of Forms	Average number of vessels in one Form	Major Form No.
①	1	1	**1**	-
②	1	1	**1**	-
③	1	1	**1**	-
④	8	3	**2.7**	2, 3
⑤	142	28	**5.1**	10, 11, 12, 13, 14, 15, 18, 19, 20
⑥	3	3	**1**	1, 2, 3
⑦	18	9	**2**	2, 6, 7, 9

Table 6.57 The fundamental classification of the major Forms in Nettlebank Copse

Form	Plain	Decorative	Rounded	Inflectional
④-2				
④-3				
⑤-10				
⑤-11				
⑤-12				
⑤-13				
⑤-14				
⑤-15				
⑤-18				
⑤-19				
⑤-20				
⑦-2				
⑦-6				
⑦-7				
⑦-9				

Table 6.58 Information on vessels from Bury Hill

Ceramic No.	feature	phase	Neck D	Max D	Ratio: Neck/Max (%)
8	layer 143 (Phase 3)	cp 6 (Middle)	6.9	7.1	97.2
9	layer 143 (Phase 3)	cp 6 (Middle)		8.3	
10	layer 186 (Phase 3)	cp 6 (Middle)		4.7	
11	layer 186 (Phase 3)	cp 6 (Middle)		5.4	
12	layer 191 (Phase 3)	cp 6 (Middle)	5.4	5.5	98.2
13	layer 179 (Phase 4)	cp 6 (Middle)	4.4	4.7	93.6
16	layer 123 (Phase 5)	cp 7 (Late)	5.3	7.3	72.6
18	layer 123 (Phase 5)	cp 7 (Late)	4.8	5	96
22	layer 123 (Phase 5)	cp 7 (Late)		4.7	
23	P45/8 (Phase 5)	cp 7 (Late)	3.5	3.6	97.2
24	P45/8 (Phase 5)	cp 7 (Late)	4	4.3	93
25	P45/4 (Phase 5)	cp 7 (Late)	8.2	8.4	97.6
29	P45/8 (Phase 5)	cp 7 (Late)	5.4	5.5	98.2
31	layer 175 (Phase 5)	cp 7 (Late)		4.1	
33	layer 133 (Phase 6)	cp 7 (Late)	4.5	5.6	80.4
34	layer 133 (Phase 6)	cp 7 (Late)	4.1	4.3	95.3
41	layer 177 (Phase 6)	cp 7 (Late)		4.1	
43	layer 177 (Phase 6)	cp 7 (Late)		3.8	
49	Pit 24 (layer 1)	cp 7 (Late)		5.9	
51	Pit 24 (layer 2)	cp 7 (Late)	4	4.5	88.9
52	Pit 24 (layer 2)	cp 7 (Late)		4.1	
53	Pit 24 (layer 2)	cp 7 (Late)	3.7	4.4	84.1
54	Pit 24 (layer 2)	cp 7 (Late)		4.8	
55	Pit 24 (layer 2)	cp 7 (Late)		5.1	
58	Pit 24 (layer 4/5)	cp 7 (Late)	5.4	5.5	98.2
60	Pit 24 (layer 5)	cp 7 (Late)		4.8	
61	Pit 24 (layer 5)	cp 7 (Late)	5.4	5.5	
65	Pit 24 (layer 9)	cp 7 (Late)	4	4.6	87
67	Pit 39 (layer 2)	cp 7 (Late)	3.8	5	76
71	Pit 39 (layer 5)	cp 7 (Late)	4.7	5.3	88.7
72	Pit 41 (layer 6)	cp 7 (Late)	4	4.7	85.1
73	Pit 41 (layer 6)	cp 7 (Late)	3.6	3.8	94.7
76	Pit 41 (layer 5)	cp 7 (Late)	5	5.1	

Table 6.59 The classification table of the vessels from Bury Hill

Category	Form	Surface	(Upper) Body	Neck to Rim
①	1	Plain	Rounded: loosely curved	Short: upright.
	2	Plain	Rounded: loosely curved.	Minimal or simple
	3	Decorative	Rounded: loosely curved * a decoration band on the upper body, which is composed of a horizontal line and successive oblique lines on both sides of the lines	Middle: curved outwards
②	1	Plain	Rounded: straight.	Simple: upright
	2	Plain	Rounded: minimal straight.	Simple
	3	Plain	Rounded: short straight	Minimal.
	4	Plain	Rounded: vertical and convex *small and large	Minimal or simple .
③	1	Plain	Rounded: vertical and somewhat slant outwards * a variety of size	Minimal or simple
	2	Decorative	Rounded: vertical and somewhat slant outwards * decoration band just below a rim, which mainly consist of complex lines	Minimal or simple
	3	Decorative	Rounded: loosely curved * three horizontal lines of successive impressions and successive oblique lines between the lines	Simple

Table 6.60 Information on the number of vessels from Bury Hill

Category	number of vessels	number of Forms	average number
①	8	3	2.7
②	11	4	2.8
③	14	3	4.7
Total	**33**	**8**	**4.1**

Table 6.61 Data on radiocarbon date from Old Balksbury Camp

Context.	Dating lab. Sample.	C14 age	Calibrated dates (1 sigma)	Calibrated dates (2 sigma)
Phase II bank (BCI (10))	HAR-442, antler	2740±170	cal BC 1100-790	cal BC 1395-410
Pit 36, layer 6	HAR-444, charcoal	2140±80	cal BC 360-95	cal BC 390-20 cal AD
Pit 182, layer 4	HAR-445, charcoal	2000±80	cal BC 105-75 cal AD	cal BC 200-140 cal AD
Pit 106, layer 4	HAR-446, charcoal	2180±150	cal BC 400-40	cal BC 760-120 cal AD

Table 6.62 Information on vessels from Balksbury Camp

Ceramic No.	feature	phase	Neck D	Max D	Ratio: Neck/Max (%)
15	pit 914	Early	4.6	5.8	79.3
17	pit 914	Early	5.3	5.7	93
22	pit 515	Early	7.6	8.5	89.4
23	pit 515	Early	7.9	8.5	92.9
30	pit 133	Early	6	6.8	88.2
34	pit 500	Early to Middle	5.2	5.7	91.2
35	pit 500	Early to Middle	4.3	4.9	87.8
36	pit 24	Early to Middle	6	6.5	92.3
37	pit 24	Early to Middle	7.4	7.9	93.7
41	pit 352	Middle	4.5	4.7	95.7
42	pit 352	Middle	4.4	4.6	95.7
43	pit 352	Middle	3.4	3.8	89.5
44	pit 352	Middle	4.8	5.2	92.3
45	pit 352	Middle	4.8	5.3	90.6
46	pit 352	Middle	2.5	3.3	75.8
47	pit 352	Middle	3.9	4.2	92.9
48	pit 352	Middle	3.2	3.5	91.4
49	pit 352	Middle	3.7	3.9	94.9
50	pit 352	Middle	4.6	4.9	93.9
51	pit 352	Middle	6.5	6.8	95.6
54	pit 52	Middle	4.7	5.9	79.7
55	pit 52	Middle	2.8	3.1	90.3
56	pit 52	Middle	3.9	4.2	92.9
58	pit 52	Middle	5	5.8	86.2
60	pit 52	Middle	3.4	3.6	94.4
61	pit 52	Middle	4.2	4.4	95.5
63	pit 65	Middle to Late	3.2	3.6	88.9
65	pit 65	Middle to Late	5.6	6.1	91.8
66	pit 65	Middle to Late		5.1	
70	pit 213	Late	4	4.4	90.9
72	pit 213	Late	3.5	4.1	85.4
73	pit 213	Late	3.1	3.1	
74	pit 213	Late	4	4.2	95.2
76	pit 213	Late	3.7	3.7	
77	pit 213	Late	4.6	5.7	80.7
78	pit 213	Late	3.8	4.2	90.5
79	pit 213	Late	4.2	4.7	89.4
80	pit 187	Late to early Roman	4.5	5.6	80.4
81	pit 187	Late to early Roman	3.3	4.5	73.3
83	pit 187	Late to early Roman	6.1	6.3	
84	pit 432	Late to early Roman	5.8	6.9	84.1
88	pit 529	Late to early Roman	5.5	7.1	77.5
89	pit 529	Late to early Roman	4.8	6.7	71.6
90	pit 529	Late to early Roman	6.7	7.8	85.9
91	pit 529	Late to early Roman	2.3	4.4	52.3
92	pit 529	Late to early Roman	5.8	6.1	95.1

Table 6.63 The classification table of the vessels from Balksbury Camp

Category	Form	Surface	(Upper) Body	Neck to Rim
①		Decorative	Rounded: loosely curved * two cordons	Short: loosely curved outwards.
②	1	Decorative	Rounded: loosely curved *one horizontal groove	Middle: curved outwards
	2	Decorative	Rounded: loosely curved *successive impressions on the rim top	Short: upright
	3	Decorative	Rounded: curved *one horizontal groove	Minimal: slant outwards
	4	Plain	Rounded: curved	Minimal.
	5	Plain	Rounded: loosely curved	Short or minimal: upright
	6	Plain	Rounded: vertical	Simple: slant inwards
③	1	Plain	Rounded: vertical and convex *small and large	Minimal or simple
	2	Plain	Rounded: short and straight	Short or minimal
	3	Plain	Rounded: vertical and convex	Short or minimal
	4	Plain	Rounded: loosely curved	Short: upright
	5	Plain	Rounded: loosely curved	Minimal or simple
	6	Plain	Rounded: loosely curved *a variety of size	Middle or long: upright or slightly curved outwards
	7	Plain	Inflectional: straight	Middle: curved outwards
	8	Plain	Inflectional: straight	Short or minimal: slant outwards
	9	Plain	Inflectional: straight	Minimal
	10	Decorative	Inflectional: straight *three successive horizontal grooves on the shoulder	Short: upright and slant outwards
	11	Decorative	Rounded: vertical and convex *a curving line	Minimal: slant outwards
	12	Decorative	Rounded: high-shouldered *two horizontal grooves	Minimal
	13	Decorative	Rounded: shortly curved *two unclear grooves on the shoulder and a motif on the body	Middle: upright and slant outwards *upright neck
	14	Decorative	Rounded: loosely curved *a series of impressions on the rim top or just below the rim	Middle: upright and slant outwards
④	1	Plain	Rounded: straight and slant outwards	Simple: somewhat upright
	2	Plain	Rounded: vertical, straight and slant outwards	Minimal
	3	Decorative	Rounded: vertical, straight and slant outwards *successive linear combinations and curving lines	Minimal

Table 6.64 Information on the number of vessels from Balksbury Camp

Category	number of vessels	number of Forms	average number
①	1	1	1
②	8	6	1.3
③	33	14	2.4
④	4	3	1.3
Total	**46**	**24**	**1.9**

Table 6.65 Information on vessels from Old Down Farm

Ceramic No.	feature	phase	Neck D	Max D	Ratio: Neck/Max (%)
26	pit 2073	3	3.1	3.2	96.9
29	pit 2073	3	2.7	3.1	87.1
30	pit 2073	3	5.1	6.5	78.5
34	pit 512	3	5.8	6.9	84.1
40	ditch section S2831	3	3	3.5	85.7
41	ditch section S919	3	3.1	3.2	96.9
42	ditch section S919	3	3.8	4.7	80.9
46	posthole 451	3	3	3.3	90.9
48	posthole 451	3	2.6	3.2	81.3
49	posthole 451	3	3.2	3.6	88.9
50	posthole 451	3	3.7	4.7	78.7
51	posthole 451	3	4.2	5.9	71.2
53	posthole 451	3	6.8	7.9	86.1
54	pit 1080	3	0.9	1.9	47.4
57	pit 1080	3	3	3.7	81.1
59	pit 1049	3	4.8	5.3	90.6
62	pit 2823	3	3.9	4.9	79.6
70	pit 2664	4	3.6	4.3	83.7
71	pit 253	4	5.3	5.9	89.8
72	pit 253	4	6	6.8	88.2
73	pit 253	4	5.4	6.3	85.7
74	pit 253	4	4.6	6.4	71.9
78	pit 2100	4	9.4	10.1	93.1
80	pit 242	4&5		4.7	
81	pit 242	4&5		4	
82	pit 242	4&5		4.7	
84	pit 242	4&5	5.5	6.2	88.7
86	pit 464	4&5	4.3	4.5	95.6
88	pit 464	4&5	6.1	6.7	91
91	pit 979	5	3.6	5.9	61
93	pit 387	5	2.6	3.9	66.7
94	pit 387	5	3.5	3.8	92.1
95	pit 2420	5	3.9	4	
97	pit 2420	5	3.1	3.2	96.9
99	surface	5	3.3	3.5	94.3
100	pit 240	5	3.7	3.9	94.9
101	pit 240	5	5.3	7	75.7
102	pit 865	5	4	4.1	
103	pit 2763	5	3.9	4	
104	pit 2456	5	3.3	4.9	67.3
106	pit 2456	5	3.2	3.9	82.1
107	pit 2457	5	3.5	5	70
108	pit 2457	5	3.8	4.2	90.5
110	pit 2598	5	3.5	3.6	97.2
111	pit 2598	5	3.5	3.6	97.2
112	pit 2598	5	3.3	3.4	97.1
113	pit 2598	5	3.5	4.2	83.3
114	pit 589	6	3.5	4.5	77.8
115	ditch 124	6	3.2	4.2	76.2
116	ditch 2401	6	4.7	5.2	90.4
119	ditch section S547	6	5.8	6.9	84.1
120	ditch section S547	6	5.2	6	86.7
122	ditch 3438	6	3.1	3.2	
124	gully 71	6		4.9	
131	pit 2345	6	2.6	2.9	89.7
132	pit 2345	6	4.8	5.2	
133	pit 2345	6	3.1	3.7	83.8
135	pit 2345	6	3.5	4.7	74.5
136	pit 2345	6	4.6	5.4	85.2
137	pit 2345	6	4.2	5.3	79.2
140	pit 2345	6	6.2	6.5	
141	pit 2345	6	5	5.7	

Table 6.66 Data on radiocarbon date from Old Down Farm

Pit No.	Harwell Ref.	Age BP	Calibrated Age
937 (Phase 2)	HAR-3495	2040±70	180BC-AD55, 375BC-AD165
1080 (Phase 3)	HAR-3494	2000±80	150BC-AD115, 365BC-AD210
2664 (Phase 4)	HAR-3496	2100±80	365BC-10BC, 420BC-AD105
2420 (Phase 5)	HAR-3493	1980±70	115BC-AD130, 205BC-AD210

* Calibrated Age: left (68% confidence level), right (95% confidence level)

Table 6.67 The classification table of the vessels from Old Down Farm

Category	Form	Surface	(Upper) Body	Neck to Rim
①		Decorative	Inflectional: straight *many horizontal grooves	Simple.
②		Plain	Rounded: loosely curved	Short: slightly curved outwards.
③	1	Plain	Rounded: loosely curved *a variety of size	Minimal.
	2	Plain	Rounded: loosely curved *the position of a max diameter is relatively low	Short or minimal: upright.
	3	Plain	Rounded: curved	Short: upright and slant outwards.
	4	Plain	Rounded: short curved	Middle: curved outwards
	5	Plain	Rounded: straight or loosely curved *large, the position of a max diameter is relatively high	Middle or short: upright
	6	Plain	Rounded: short straight *small	Short: upright and slant outwards
	7	Plain	Rounded: short curved *small	Minimal: upright and slant outwards
	8	Plain	Rounded: short curved	Long: curved outwards
	9	Plain	Rounded: curved	Long: curved outwards
	10	Plain	Rounded: vertical and convex *large and small	Short, minimal or simple
	11	Plain	Rounded: vertical and slant outwards	Simple: curved inwards
	12	Plain	Inflectional: straight	Middle or short: slant outwards or curved outwards
	13	Decorative	Rounded: high-shouldered, vertical	Short: upright and slant outwards * a series of impressions on the rim top
	14	Decorative	Rounded: high-shouldered	Middle: upright and slant inwards
	15	Decorative	Rounded: loosely curved	Minimal * a series of impressions on the rim top and shoulder
	16	Decorative	Rounded: vertical and convex * regular linear and curve patterns, and a decoration band just below a rim	Minimal or simple
	17	Decorative	Rounded: high-shouldered *one cordon on the border between a shoulder and a neck	Middle: curved outwards
	18	Decorative	Rounded: straight * two cordons on a shoulder between which there are a series of linear oblique decorations	Long: curved outwards
	19	Decorative	Rounded: loosely curved * two wavy lines on shoulders	Minimal
	20	Decorative	Rounded: straight and vertical *two linear series of impressions between which there are linear oblique decorations	Minimal
	21	Decorative	Rounded: loosely curved *one horizontal groove on the middle of a body.	Minimal
	22	Decorative	Inflectional: straight * a series of horizontal impressions on the rim top, the middles of a body, and between these, a few sizes	Middle: upright and slant outwards in some cases
	23	Decorative	Inflectional: straight * successive horizontal grooves on shoulders * small	Long: upright and slant outwards
④	1	Plain	Rounded: vertical and convex *shallow	Minimal
	2	Plain	Rounded: vertical and slightly slant outwards * deep	Simple
	3	Plain	Rounded: straight and slant outwards	Minimal: upright
	4	Plain	Rounded: short, straight and slant outwards	Simple
	5	Plain	Inflectional: straight and slant outwards	Minimal
	6	Decorative	Rounded: loosely curved *factted	Minimal: projecting outwards
	7	Decorative	Rounded: loosely curved *facetted, shallow	Minimal: projecting outwards
	8	Decorative	Rounded: vertical *decoration band composed of complex lines, just below the rim	Minimal

Table 6.68 Information on the number of vessels from Old Down Farm

Category	number of vessels	number of Forms	average number
①	1	1	1
②	1	1	1
③	49	23	2.1
④	11	8	1.4
Total	**62**	**46**	**1.3**

Table 6.69 Information on amphorae from Hengistbury Head

Amphorae type	% by Weight	% by Count	Date
Dressel 1A	8.4	5	the late 2nd century BC to the mid-first century BC
Dressel 1B	1.5	0.6	the second half of the 1st century BC
Dressel sp	58.1	68.9	the late 2nd century BC to the end of the 1st century BC
Dr. 1-Pas. 1	3.6	3.1	the late Republican period to the late 1st century AD
Dressel 2-4	0.7	1.1	the first half of the 1st century AD
Dressel 20	24.4	16.8	the 1st century AD before the Roman conquest
Cam. 185A	1.8	2.6	the 1st century AD
Cam.186sp	0.1	0.1	the 1st century AD
Unassigned	1.4	1.8	-

Table 6.70 The stratigraphic correlation between the vessels for the typological classification and amphorae from Hengistbury Head

Ph.	Ce. No.	layer	Amphorae type
K	401	10	Dr. 20
K	398	10	Dr. 20
K	1202	179	Dr. 1 sp, Dr. 20
K	1231	179	Dr. 1 sp, Dr. 20
K	1273	179	Dr. 1 sp, Dr. 20
J	1247	F128 (196)	Dr. 1 sp, Dr. 1-P1, Dr. 20
J	1299	F538 (869)	
I	301	14	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1236	184	Dr. 1 sp, Dr. 20
I	1238	185	Dr. 1 sp, Dr. 20, Camulodunum 185A
I	100	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	330	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1232	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1241	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1242	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1249	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1251	191	Dr. 1 sp, Dr. 1-P1, Dr. 20
I	1219	346	Dr. 1 sp
I	1239	346	Dr. 1 sp
I	1224	349	Dr. 1 sp
I	1274	688	Dr. 1 sp
I	1279	638	Dr. 1 sp, Dr. 1-P1
I	1283	638	Dr. 1 sp, Dr. 1-P1
I	1295	638	Dr. 1 sp, Dr. 1-P1
H	1278	582	Dr. 1 sp
H	1281	567	Dr. 1 sp, Dr. 20, Camulodunum 185A
H	1291	567	Dr. 1 sp, Dr. 20, Camulodunum 185A
H	1280	616	Dr. 1 sp, Dr. 20
H	1298	616	Dr. 1 sp, Dr. 20
G	1211	360	Dr. 1A, Dr. 1 sp
G	1265	568	Dr. 1 sp, Dr. 20
G	1275	573	Dr. 1 sp, Dr. 20, Camulodunum 185A
G	1270	689	Dr. 1 sp
G	1277	689	Dr. 1 sp
G	1285	689	Dr. 1 sp
F	354	F50 (44)	
F	1248	195	Camulodunum 185A
F	1216	F226 (355)	Dr. 1A, Dr. 1 sp
F	1226	F226 (355)	Dr. 1A, Dr. 1 sp
F	1245	F226 (350)	Dr. 1 sp
F	1233	228	
F	428	366	Dr. 1 sp
F	429	366	Dr. 1 sp
F	430	366	Dr. 1 sp
F	1292	566	Dr. 1 sp, Dr. 20, Camulodunum 186 sp
E-F	349	F49 (44)	
E	259	70	Dr. 1 sp, Dr. 1-P1
E	1228	258	Dr. 1 sp
E	449	354	Dr. 1 sp
E	1288	F419 (641)	
E	1287	F389 (613)	Dr. 1 sp, Dr. 1-P1, Dr. 20, Camulodunum 185A
E	1266	570	Dr. 1 sp
E	1268	570	Dr. 1 sp
E	1282	570	Dr. 1 sp
E	1294	570	Dr. 1 sp
E	1276	617	Dr. 1 sp, Dr. 1-P1
E	762	697	Dr. 1 sp
E	1269	697	Dr. 1 sp
E	1284	697	Dr. 1 sp

St.	Ce. No.	layer	Amphorae type
D	2	81	
D	10	204	
D	256	42	
D	327	F46 (44)	
D	333	F47 (44)	
D	1243	F237 (380)	
D	1246	F237 (386)	Dr. 1 sp
D	1229	257	Dr. 1 sp
D	427	265	
D	1244	279	
D	436	361	Dr. 1 sp
D	437	361	Dr. 1 sp
D	438	361	Dr. 1 sp
D	431	367	Dr. 1 sp
D	1293	F393 (588)	Dr. 1 sp
C	25	41	
C	157	F42 (44)	Dr. 1A, Dr. 1 sp, Dr. 1-P1, Dr. 20
C	1323	F42 (44)	Dr. 1A, Dr. 1 sp, Dr. 1-P1, Dr. 20
C	380	F42 (45)	
C	388	F42 (46)	Dr. 1 sp
C	1317	F42 (46)	Dr. 1 sp
C	1318	F42 (46)	Dr. 1 sp
C	379	F42 (50)	Dr. 1 sp
C	1322	F42 (50)	Dr. 1 sp
C	433	F42 (272)	
C	417	F235 (358)	Dr. 1 sp
C	1221	F235 (362)	
C	1222	330	
C	1205	362	Dr. 1 sp
C	1213	362	Dr. 1 sp
C	1311	F573 (851)	
C	1272	643	Dr. 1B, Dr. 1 sp, Dr. 20
C	1286	643	Dr. 1B, Dr. 1 sp, Dr. 20
C	1324	660	Dr. 1B, Dr. 1 sp
A	1260	F266 (468)	
A	1258	F275 (421)	
A	1254	F290 (446)	
A	1256	F290 (446)	
A	1257	F290 (446)	
A	1261	F290 (446)	
A	1264	F433 (715)	
A	1262	F559 (847)	
A	1267	Ph 1489	
A	1296	Ph 1414	Dr. 1 sp
A	1297	Ph 1459	Dr. 1 sp

* Ph. : Phase, Ce. No. : Ceramic number, F : Feature, Ph: Posthole, Dr. : Dressel, P : Pascual

* Phases A: Early/Middle Iron Age, C: Late Iron Age 1, D: Late Iron Age 2, E to K: The Roman period

Table 6.71 Information on vessels from Battlesbury Bowl

Fig.	Ceramic No.	context	Neck D	Max D	Ratio: Neck/Max (%)
4.5	1	4022, ditch 4040, section 4021	3.2	3.6	88.9
4.5	5	4451, ditch 4043, section 4105	4.4	5.1	86.3
4.5	6	4071, ditch 4043, section 4019	4.3	5.5	78.2
4.5	7	4448, ditch 4043, section 4105	4	4.1	97.6
4.5	12	5735, pit 5358	5.8	5.9	
4.5	13	5359, pit 5358	4.8	5.1	94.1
4.5	14	4331, pit 4330	5.1	5.3	96.2
4.5	15	4810, pit 4707	4.4	4.7	93.6
4.5	16	4728, pit 4641	5.2	5.7	91.2
4.5	17	5735, pit 5358	8.3	8.4	
4.5	18	4210, ditch 4043, section 4090		8.9	
4.5	22	5044, pit 5043	8.1	9.1	89
4.5	23	4016, ditch 4040, section 4012	3.7	4.4	84.1
4.6	24	5752, pit 5750	8.6	9.3	92.5
4.6	26	5751, pit 5750	5	5.7	87.7
4.6	27	4022, ditch 4040, section 4021	3.9	4.7	83
4.6	28	5732, pit 5592	4.3	4.8	89.6
4.6	32	4317, pit 4751	3	3.6	83.3
4.6	33	4385, pit 4332	7.8	8.7	89.7
4.6	34	5594, pit 5592	4.8	5.5	87.3
4.6	35	4120, ditch 4043, section 4090	5	7.7	64.9
4.6	40	4417, pit 4416	5.2	5.7	91.2
4.6	41	4810, pit 4707	7.3	8.8	83
4.6	42	4635, pit 4584	5.2	5.6	92.9
4.6	43	4515, pit recut 4514	4	4.2	95.2
4.7	44	4194, pit 4195	7.3	8.5	85.9
4.7	45	4811, pit 4707	9.7	11.6	83.6
4.7	46	4507, pit 4486	5	5.9	84.7
4.7	47	5728, pit 5592	2.5	2.9	86.2

Table 6.72 Data on radiocarbon date from Battlesbury Bowl (source: Ellis, Powell and Hawkes 2008)

Feature	*Context*	*Material*	*Lab. No.*	*Result BP*	*δC[13]‰*	*cal BC (2σ)*
Phase 1/2: 800–350 cal BC						
Ditch 4043	4101 (section 4105)	cattle skull frags (3029)	NZA-17103	2503±40	-20.53	790–420
		cow radius	NZA-13629	2435±70	-21.07	770–400
	4170 (section 4090)	cow femur	NZA-13630	2445±55	-20.86	770–400
Phase 3: 350–200 cal BC						
Pit 5043	5137	pig humerus (3282)	NZA-13634	2247±70	-20.09	420–100
Pit 4707	4811	corvid skeleton (3423)	NZA-17107	2277±40	-19.23	400–200
		horse skull (3219) – cleaned	NZA-17106	2225±50	-21.59	400–160
Pit 4332	4385	horse metapodial, articulated	NZA-17104	2276±45	-21.61	400–200
		human right foot (3016), articulated	NZA-17105	2262±40	-19.62	400–200
	4571	human right femur	NZA-13633	2258±55	-20.11	410–190
Hearth 5711	5959	charcoal: *Prunus spinosa*	NZA-13635	2265±55	-24.24	410–180
Pit 5750	5752	cow 1st phalanges	NZA-17102	2236±50	-21.46	400–180
Pit 5358	5848	cow vertebra, articulated	NZA-13635	2168±55	-21.38	380–100
		cattle vertebrae (3420), articulated	NZA-17108	2241±40	-20.61	390–190
Pit 4868	4884	hornless cattle skull (3238)	NZA-17101	2232±40	-21.28	390–190
Phase 4: 200 cal BC–AD 43						
Pit 4272	4346	human right femur	NZA-13632	2127±85	-20.04	300–AD 20
Pit 4320	4322	human right femur	NZA-13631	2083±70	-19.82	360–AD 60

Table 6.73 The classification table of the vessels from Battlesbury Bowl

Category	Form	Surface	(Upper) Body	Neck to Rim
①	1	Plain	Inflectional: straight	Minimal: upright
②	1	Plain	Rounded: vertical	Simple
	2	Plain	Rounded: vertical and loosely curved	Minimal or simple: upright
	3	Plain	Rounded: shortly loosely curved	Minimal
	4	Plain	Rounded: loosely curved	Simple: flat and thick rim-top
	5	Plain	Rounded: loosely curved	Minimal: upright
	6	Plain	Rounded: shortly straight	Short: curved outwards
	7	Plain	Rounded: shortly loosely curved	Short: upright
	8	Plain	Rounded: loosely curved	Short: upright and slant outwards
	9	Plain	Rounded: shortly loosely curved	Short: curved outwards
	10	Plain	Rounded: shortly straight	Long: curved outwards
	11	Plain	Inflectional: straight	Short: upright and slant outwards
	12	Plain	Inflectional: shortly straight	Middle: upright and slant outwards
	13	Plain	Inflectional: shortly straight	Short: upright
	14	Plain	Inflectional: shortly straight	Long: upright and slant outwards
	15	Decorative	Rounded: shortly straight	Middle: upright
	16	Decorative	Rounded: shortly straight	Short: upright
	17	Decorative	Rounded: straight	Minimal: upright and slant outwards
	18	Decorative	Rounded: shortly straight	Minimal: upright and slant outwards
	19	Decorative	Rounded: shortly curved	Minimal: upright
③	1	Plain	Rounded: vertical	Simple: flat rim-top
	2	Plain	Rounded: slightly curved *strongly slant outwards	Simple: flat rim-top
	3	Plain	Rounded: straight *strongly slant outwards	Minimal: thick rim-top

Table 6.74 The stratigraphic information on Iron Age vessels in the Maiden Castle report by Wheeler (1943)

Ceramic No.	Stratigraphic information
1	It was found immediately overlying the Neolithic turf-line at the base of the Iron Age A succession on site L.
2	Found on site Q identically the same conditions as those of no. 1 above.
3	From the make-up of the third and latest phase of the Iron Age A rampart at the eastern entrance.
4	The present fragment is derived from a pit (B9) which is unlikely to be earlier than the middle of the A period.
5	The latest stratified occurrence is in the occupation layer on rampart 2-3 of the extension (site H); it died out well before the end of Iron Age A, and belongs mainly to the earliest part of that phase.
6	From the earliest Iron Age A level on site L, where all the Maiden Castle phases are well represented.
7	The present shed is from a pit (A18) which may be ascribed to the middle of the A phase, i.e. c. 200 B.C.
8	Haematite-coated bowl similar to the preceding, and from a pit (A15) of similar date.
9	Haematite-coated bowl from a middle Iron Age A group on site D.
10	Haematite-coated bowl from a middle Iron Age A group on site G.
11	Found in rampart 4 (site G) with an iron ring-headed and swan-necked pin, and derived material of the middle or latter part of Iron Age A on site G (M1).
12	Upper half of haematite-coated bowl, from a floor on site G, equating with the middle of the three successive rampart constructions of Iron Age A.
13	Rim of haematite-coated bowl from a layer on sit G dating from the middle of Iron Age A (200 B.C. or a little later).
14	; found in the latest of the three successive Iron Age A ramparts on site G, with derived material which included the finger-tip sherd, no. 3 above c.second century B.C.
15	From a level on site A ascribable to the middle of the Iron Age A period.
16	Globular haematite-coated bowl from an early-mid Iron Age A level on site L.
17	, from a pit (G10) ascribable to the middle of Iron Age A.
18	Found with a sherd of a heamatite bowl similar to no.5 above in a pit (L20) ascribable to the earlier half of Iron Age A, c. third century B.C.
19	, from a level on site A ascribable to the first half or middle of Iron Age A.

Table 6.75 The chronological scheme of the Iron Age in Maiden Castle by Wheeler (1943)

Title of structural sequence	Phase	Date
The first Maiden Castle	Iron Age Ⅰ	c. 300B.C. and after
The Iron Age A Extension of Maiden Castle	Iron Age Ⅱ	c. 200 B.C.
The arrival of the Iron Age B culture	Iron Age Ⅲ	First half of first century B.C.
The developed Iron Age B phase	Iron Age Ⅳ	Beginning of the first century A.D.
Iron Age C: The Belgae at Maiden Castle		A.D. 25-44

Table 6.76 Information on vessels from Maiden Castle, the 1943 report (1)

Ceramic No.	Neck D	Max D	N/M	feature
3 (P.117)	3.4	4.3	79.1	pit 16
4 (P.117)	3.9	4.5	86.7	pit 16
5 (P.117)	4.1	4.6	89.1	pit 16
7 (P.117)	3.6	4.3	83.7	pit 16
8 (P.117)	3.9	4.5	86.7	pit 16
9 (P.117)	4	4.5	88.9	prior to completion of same counterscarp bank
14 (P.117)	3.8	5.3	71.7	prior to completion of same counterscarp bank
15 (P.117)	3.5	4.9	71.4	in make-up of late hornwork, unde limestone parapet
17 (P.117)	3.4	3.8	89.5	in make-up of late hornwork
18 (P.117)	3.6	4.2	85.7	in make-up of late hornwork
19 (P.117)	3.8	4.5	84.4	in make-up of late hornwork
20 (P.117)	2.5	3.1	80.6	in rapid slit of recurved end of south middle ditch of East Entrance, cut in latest B period
1	3.6	3.8		overlying the neolithic turf-line
5	3.9	4.1	95.1	occupation layers
6	2.7	3.3		the earliest Iron Age A level on site L
7	3.2	3.6		pit (A18)
9	5.5	5.9	93.2	a middle Iron Age A group on site D
10	5.6	5.7	98.2	a middle Iron Age A group on site G
11	3.7	3.8	97.4	rampart 4
12	3.6	4.2		floor
14	2.7	3.2	84.4	rampart
15	3.5	4.2	83.3	a level on Iron Age A ascribable to the middle of the Iron Age A period
16	2	2.4	83.3	an early-mid Iron Age A level on site L
17	4	4.3		pit 10 (G10)
18	4	4.4		pit (L20)
19	2.5	2.9	86.2	a level on site A ascribable to the irst half or middle of Iron Age A
20		3.6		the earliest rampart on site D
21	5.8	6.6	87.9	the second of the three Iron Age A ramparts at the eastern entrance
22	3.7	4.3	86	on site L
23	4.8	5.2	92.3	pit (B8)
24	3	3.3	90.9	pit (F6)
25	7.5	8	93.8	the middle A level on site A
27	7.4	8.1	91.4	the middle A levelat the eastern entrance
28	6.9	8.7	79.3	an early to middle A level on site D
30	2.3	2.8	82.1	an early to middle A level on site D
31	6.4	7.7	83.1	the middle A level on site F
35	3.6	4.7	76.6	a middle to late A level at the eastern entrance
36	6.5	8.2	79.3	a middle to late A level at the eastern entrance
37	5.7	6.8	83.8	a middle A level on site A
39	6.9	7.4	93.2	pit (B8)
40	2.6	3.2	81.3	pit (A18)
41	2.7	3.2	84.4	a middle to late A level on site F
42	5.6	6.3	88.9	pit (B19)
43	6.5	7.2	90.3	pit (A16)
44	3.4	3.7	91.9	pit (A16)
45	3.3	3.7	89.2	pit (B19)
46	3.7	4.1	90.2	an early to middle A level on site A
47	3.8	4.3	88.4	pit (B23)
48	4.5	5.7	78.9	pit (A16)
49	5.7	6.4	89.1	pit (A16)
50	5.5	6.4	85.9	pit (A19)

Table 6.77 Information on vessels from Maiden Castle, the 1943 report (2)

Ceramic No.	Neck D	Max D	N/M	feature	note
51	8.3	8.7	95.4	a late A level on site A	-
52	7.5	8.3	90.4	a late A level on site A	-
54	7	7.5	93.3	a late A level on site A	-
56	4.4	4.6	95.7	pit (B9)	with 134A
58	5.5	8.8	62.5	a late A level on site D	-
59	6	6.6	90.9	a mid A level on sit Q	-
60	2.4	3.2	75	a mid to late A level on site F	-
65	2.8	3.5	80	a layer on site G dating from the transition from A to B	-
70	2.9	4	72.5	a late A level on site D	-
71	2.9	3.5	82.9	a level on site D	-
72	2.6	2.7	96.3	pit (B23)	
85	3.2	4.7	68.1	an early Bii layer on site D	-
86	4.5	6.3	71.4	pit (A11)	-
87	3.3	4.6	71.7	pit (B7)	-
88	4.2	4.6	91.3	pit (B29)	with 102, 142
89	3.9	4.7	83	a Bi level on site A	-
96	3.1	4	77.5	pit (B23)	-
97	4	4.8	83.3	G4A	-
100	3.2	4	80	pit (B24)	with 143
101	2.6	2.9	89.7	pit	-
102	3.5	3.8	92.1	pit (B29)	with 88, 142
103	3.4	4.6	73.9	an early Bii level on site H	-
104	3.8	4.7	80.9	pit (A8)	with 115
105	3.7	4.8	77.1	a layer which included an example of Bii on site A	-
106	3.5	4.3	81.4	pit (F8)	-
107	3.8	4.5	84.4	pit (B11)	-
109	4.1	4.7	87.2	pit (B14)	with 112, 116, 125, 148
110	3.9	4.5	86.7	-	-
112	3.2	3.5	91.4	pit (B14)	with 109, 116, 125, 148
115	3.8	4.4	86.4	pit (A8)	with 104
116	5.2	5.8	89.7	pit (B14)	with 109, 112, 125, 148
119	6.4	7.4	86.5	a late A level at the eastern entrance	-
125	6.2	7	88.6	pit (B14)	with 109, 112, 116, 148
126	6.5	9	72.2	a late B belgic layer in the eastern entrance	-
134A	7.6	9.4	80.9	pit (B9)	with 56
135	3.5	6.4	54.7	herath C	with 136
136	5.7	8	71.3	herath C	with 135
137	6.4	8.3	77.1	a late B level on site C	-
138	6	8.1	74.1	with Bii pottery on site D	-
139	6.8	8.9	76.4	pit (B36)	-
142	7	8.4	83.3	pit (B29)	with 88, 102
143		6.5		pit (B24)	with 100
144	6.3	6.5		pit (G16)	-
145	6.5	6.9		pit (G4)	with 161
146	6.2	6.4		a Bii-iii layer on site L	-
147	6.7	7		pit (B1)	with 168
148	3.3	4	82.5	pit (B14)	with 109, 112, 116, 125
149	2.5	2.9	86.2	pit (B12)	with 151
150	3.2	5	64	pit (A11)	-
151	3.1	4.8	64.6	pit (B12)	with 149
152	3.2	4.1	78	a Bii-iii layer on site D	with 165
153	4.3	4.8	89.6	a Bii level on site L	-
154	4.7	6.9	68.1	pit (D2W)	-
155	4.2	5.6	75	a Biii level on site Q	-
156	4	4.2	95.2	pit (G2)	-
157		3.7		a B level	-
158	3.9	4.1	95.1	pit (B49)	-
160	1.8	2.1	85.7	pit (E1)	-

Table 6.78 Information on vessels from Maiden Castle, the 1943 report (3)

Ceramic No.	Neck D	Max D	N/M	feature	note
161	1.7	1.9	89.5	pit (G4)	with 145
164	4	4.9	81.6	pit	-
165	3.8	5	76	with Biii pottery on site D	with 152
166	2.8	3.9	71.8	an early Belgic level on site L	-
167	3.6	4.7	76.6	an early Belgic level on site Q	-
168	4	5.2	76.9	pit (B1)	with 147
170	4.9	5.6	87.5	an early Belgic level on site Q	-
171	3.5	4	87.5	skelton P6	
172	4	4.6	87	skelton P7	
173	3.9	4.5	86.7	skelton P7a	
174	3.8	4.3	88.4	skelton P19	
175	3.6	4	90	skelton P22	with 176
176	3.6	4.2	85.7	skelton P22	with 175
177	3.6	4.2	85.7	skelton P23	with 178
178	3.5	4	87.5	skelton P23	with 177
179	3.3	3.8	86.8	skelton P24	
180	3.7	4.4	84.1	skelton P25	
181	3.5	3.8	92.1	skelton P34	
182	3	3.3	90.9	skelton P36	with 184
183		3.7		skelton P22	with 175, 176
184		2.8		skelton P36	with 182
185	3.1	3.4	91.2	skelton P2	
186	3	3.6	83.3	skelton O4	
187	3.4	4.2	81	skelton P18	
188	3.4	4.4	77.3	skelton T6	
189	3.7	4.3	86	skelton T20	
190	3.9	4.4	88.6	skelton T25	
192	3	3.4	88.2	burial no.1	
193	3.3	4.2	78.6	a Belgic level on site B	
194		4.1		a Belgic level on site B	
195	3.4	3.6	94.4	a Belgic level on site B	
196	6.1	6.3		a Belgic level on site B	
199	5.9	6.1	96.7	a Belgic level on site B	
208	1.8	2.1	85.7	an early Roman level on site L	
209	2.6	3.3	78.8	a Belgic level	
213	4	4.9	81.6	a secondary Belgic level on site L	
214	4.1	5.3	77.4	the lower Belgic layer on site L	
216	3.3	5	66	the lower Belgic layer on site L	
218	3.4	4	85	a level on site Q datable to *c.* AD 25-50	
219	3.2	4	80	the lowest Belgic layer on site L	
220	3.8	4.9	77.6	the lowest Belgic level on site L	
221	4.2	5.4	77.8	the lowest Belgic level on site L	
222	4.4	6.5	67.7	a low Belgic level on site B	
223	5	7.1	70.4	the lowest Belgic level on site L	
227	2.4	2.5		a Romano-Belgic level on site L	
228	3	3.8	78.9	the lowest Belgic level on site L	
229	4	4.2	95.2	a low Belgic level on site B	
231	3.2	5	64	the lower Belgic layer on site L	
232	4.6	5.7	80.7	a Romano-Belgic level on the rampart at the eastern entrance	
233	3.2	4.1	78	a low Belgic level on site B	
234	5.7	7.2	79.2	a layer on site Q dating immediately before or after the Roman Conquest	
236	4.5	5.8	77.6	a Romano-Belgic layer on site L	
237	4.1	4.7	87.2	the twelfth stratum of a pit (B6)	
238	4.4	6.1	72.1	the lower Belgic layer on site L	
239	3.9	5	78	the early Belgic level on site A	
240	3.4	4.2	81	a Romano-Belgic level on site R	
241	3	4	75	a layer near the surfece on site L	
244	7.8	7.9	98.7	an early Belgic layer on site L	
245	4.8	4.9		a Romano-Belgic level on site B	
246		6		the lowest-but-one of several Belgic levels on site B	
247	4.5	4.6		the lowest Belgic level on site B	
246		6		the lowest-but-one of several Belgic levels on site B	
247	4.5	4.6		the lowest Belgic level on site B	

Table 6.79 Information on vessels from Maiden Castle, the 1991 report (1)

Fig. No.	Ceramic No.	Neck D	Max D	N/M	context	Phase
152	1	5	6	83.3	Trench II 331 (425)	6C
152	2	4.6	5.7	80.7	Trench II 331 (431)	6C
152	3		8.8		Trench II 331 (330)	6C
152	4	6.6	6.7		Trench II 331 (330)	6C
152	8	7.9	8.6	91.9	Trench III 858	6D
153	5	4.3	4.9	87.8	Trench IV 6602	6E
153	6	6.8	7.3	93.2	Trench IV 6602	6E
153	8	4.2	5.1	82.4	Trench IV 6602	6E
153	9	5.7	6.3	90.5	Trench IV 6602	6E
153	10	4.7	5.2	90.4	Trench IV 6485	6E
153	11		5.9		Trench IV 6485	6E
153	12	3.3	4.2	78.6	Trench IV 6602	6E
153	13	3.7	4.6	80.4	Trench IV 6485	6E
153	14	4.3	4.9	87.8	Trench IV 6485	6E
153	15	5.3	5.5	96.4	Trench IV 6485	6E
154	1	12.4	13.5	91.9	Trench IV 6512	6E
154	2	8	10.2	78.4	Trench IV 6487	6E
154	4	3.9	4.9	79.6	Trench IV 6039	6E
154	5	5.6	7.3	76.7	Trench IV 5062	6E
154	6	3.3	3.6	91.7	Trench IV 5062	6E
155	1	8.7	10	87	Trench IV 6359	6F
155	3	4.7	5.7	82.5	Trench IV 5006	6F
155	4	4.9	6.8	72.1	Trench IV 6310	6F
155	6	4.7	4.9	95.9	Trench IV 6122	6F
155	7	4.7	5.5	85.5	Trench IV 6091	6F
155	12	5.3	6.6	80.3	Trench IV 6569	6F
155	13	3.4	3.7	91.9	Trench IV 6652	6F
155	14	5.3	6.2	85.5	Trench IV 6582	6F
155	15	6.1	7.5	81.3	Trench IV 6077	6F
155	16	5.2	6.1	85.2	Trench IV 6265	6F
155	19	8	8.1	98.8	Trench IV 6205	6F
156	3	4.6	5.7	80.7	Trench IV 5916	6F
156	4	4.4	5.5	80	Trench IV 5916	6F
156	6	4	5.3	75.5	Trench IV 5914	6F
157	1	5.7	7	81.4	Trench IV 5614	6G
157	3	5.3	6.5	81.5	Trench IV 5263	6G
157	4	4.7	5.5	85.5	Trench IV 5263	6G
157	5	9.8	10.1		Trench IV 5684	6G
157	6	5.4	5.9	91.5	Trench IV 5263	6G
157	7	5.4	6.4	84.4	Trench IV 5412	6G
157	11	5	5.6	89.3	Trench IV 5884	6G
157	13	5	6.4	78.1	Trench IV 5778	6G
157	14	5.6	8	70	Trench IV 5778	6G
157	16	4.7	5.7	82.5	Trench IV 5778	6G
157	17	9.7	12.3	78.9	Trench IV 6330	6G
158	1	7.3	10.3	70.9	Trench IV 5223	6G
158	2	3.6	4.6	78.3	Trench IV 5256	6G
158	3	10.4	10.6		Trench IV 5630	6G
158	4	5.3	6.4	82.8	Trench IV 5946	6G
158	5	5	6.1	82	Trench IV 5694	6G
158	7	8.7	10.2	85.3	Trench IV 5946	6G
158	8	4.3	5.1	84.3	Trench IV 5281	6G
158	9	3.1	3.7	83.8	Trench IV 5872	6G
158	10	4.1	5.3	77.4	Trench IV 5793	6G
158	11	4.3	6	71.7	Trench IV 5025	6G
158	12	5.8	9.7	59.8	Trench IV 5896	6G
158	16	10	10.9	91.7	Trench IV 5766	6G

Table 6.80 Information on vessels from Maiden Castle, the 1991 report (2)

Fig. No.	Ceramic No.	Neck D	Max D	N/M	context	Phase
159	2	7.4	10.3	71.8	Trench IV 5199	6H
159	3		3.4		Trench IV 5004,5042,5142	6H
159	4	8	9.1	87.9	Trench IV 5309	6H
159	5		4		Trench IV 5042	6H
159	6	5	6.3	79.4	Trench IV 5024	6H
159	7	4.6	6	76.7	Trench IV 5088	6H
159	8	4.7	6	78.3	Trench IV 5811	6H
159	11	3.3	5.5	60	Trench IV 5825	6H
159	12		4.6		Trench IV 5827	6H
159	14	11.3	13.7	82.5	Trench IV 5095	6H
160	1	5.2	6	86.7	Trench IV 5509	6H
160	2	5.3	6.8	77.9	Trench IV 5886	6H
160	3	4.6	5.9	78	Trench IV 5353	6H
160	4	4.4	5.8	75.9	Trench IV 5500	6H
160	5	4.6	5.6	82.1	Trench IV 5894	6H
160	6	4.9	6	81.7	Trench IV 6191	6H
160	7	5.4	5.5		Trench IV 5712	6H
160	8	6	6.2	96.8	Trench IV 5894	6H
160	9	6	7.1	84.5	Trench IV 6121	6H
160	10	5.3	6.2	85.5	Trench IV 8495	6H
160	11	5.8	6.4	90.6	Trench IV 6595	6H
161	1	7.8	8	97.5	Trench VI 7075	7A
161	4	4.4	5.5	80	Trench VI 7053	7A
161	5	4	5.4	74.1	Trench VI 7101	7A
161	8		7.6		Trench VI 7082	7A
161	9	6.3	7.1	88.7	Trench VI 7069	7A
161	10	4	4.9	81.6	Trench VI 7068	7A
161	12	3.7	4.6	80.4	Trench VI 7069	7A
161	15	3.8	4.5	84.4	Trench VI 7024	9A
161	16		6.8		Trench VI 7023	9A
161	19	4.4	5.3	83	Trench VI 7026	9A
162	4	4.3	5.6	76.8	TrenchIV 5264	6G
162	5	4.9	5.6	87.5	Trench IV 5788	6G
163	1	7.3	7.4		Trench IV 5630	6I
163	2	4.1	4.8	85.4	Trench IV 5219	6I
163	3	11	11.7	94	Trench IV 5547	6I
163	4	8.7	9.7	89.7	Trench IV 6027	6I
163	5	3.9	5.3	73.6	Trench IV 5075	6I
163	7	3.7	5	74	Trench IV 6023	6I
163	13		6		Trench IV 5067	6I
163	14	4.7	5.7	82.5	Trench IV 5283	6I
163	15	3.6	3.7	97.3	Trench IV 5230	6I
163	16	3.3	4.4	75	Trench IV 5505	6I
163	17	4.7	5.8	81	Trench IV 5044	6I
164	2	10	12.9	77.5	Trench IV topsoil	unstratified
164	4	4.8	5.8	82.8	Trench III topsoil	unstratified
164	5	5.6	7.3	76.7	Trench I topsoil	unstratified
164	6	6.3	6.5	96.9	Trench I topsoil	unstratified

Table 6.81 Information on Categories of vessels from Maiden Castle (1)

Category	N/M (%)	Fig. No.	Ceramic No.
①	54.7		135
②	59.8	158	12
	60	159	11
	62.5		58
	64		150
	64		231
	64.6		151
	66		216
	67.7		222
	68.1		85
	68.1		154
③	70	157	14
	70.4		223
	70.9	158	1
	71.3		136
	71.4		86
	71.4		15 (P.117)
	71.7	158	11
	71.7		87
	71.7		14 (P.117)
	71.8	159	2
	71.8		166
	72.1	155	4
	72.1		238
	72.2		126
	72.5		70
④	73.6	163	5
	73.9		103
	74	163	7
	74.1	161	5
	74.1		138
	75	163	16
	75		60
	75		155
	75		241
	75.5	156	6
	75.9	160	4
	76		165
	76.4		139
	76.6		35
	76.6		167
	76.7	154	5
	76.7	164	5
	76.7	159	7
	76.8	162	4
	76.9		168
	77.1		105
	77.1		137
	77.3		188
	77.4	158	10
	77.4		214
	77.5	164	2
	77.5		96
	77.6		220
	77.6		236
	77.8		221
	77.9	160	2
	78	160	3
	78		152
	78		233
	78		239
	78.1	157	13
	78.3	158	2
	78.3	159	8
	78.4	154	2
	78.6	153	12
	78.6		193
	78.8		209
	78.9	157	17
	78.9		48
	78.9		228

Category	N/M (%)	Fig. No.	Ceramic No.
④	79.1		3 (P.117)
	79.2		234
	79.3		28
	79.3		36
	79.4	159	6
	79.6	154	4
	80	156	4
	80	161	4
	80		65
	80		100
	80		219
	80.3	155	12
	80.4	161	12
	80.4	153	13
	80.6		20 (P.117)
	80.7	152	2
	80.7	156	3
	80.7		232
	80.9		104
	80.9		134A
	81	163	17
	81		187
	81		240
	81.3	155	15
	81.3		40
	81.4	157	1
	81.4		106
	81.5	157	3
	81.6	161	10
	81.6		164
	81.6		213
	81.7	160	6
	82	158	5
	82.1	160	5
	82.1		30
	82.4	153	8
	82.5	155	3
	82.5	159	14
	82.5	163	14
	82.5	157	16
	82.5		148
	82.8	158	4
	82.8	164	4
	82.9		71
	83	161	19
	83		89
	83.1		31
	83.3	152	1
	83.3		15
	83.3		16
	83.3		97
	83.3		142
	83.3		186
	83.7		7 (P.117)
	83.8	158	9
	83.8		37
	84.1		180
	84.3	158	8
	84.4	157	7
	84.4		14
	84.4	161	15
	84.4		41
	84.4		107
	84.4		19 (P.117)
	84.5	160	9
	85		218
	85.2	155	16
	85.3	158	7
	85.4	163	2
	85.5	157	4
	85.5	155	7

Table 6.82 Information on Categories of vessels from Maiden Castle (2)

Category	N/M (%)	Fig. No.	Ceramic No.
④	85.5	160	10
	85.5	155	14
	85.7		160
	85.7		176
	85.7		177
	85.7		208
	85.7		18 (P.117)
	85.9		50
	86		22
	86		189
	86.2		19
	86.2		149
	86.4		115
	86.5		119
	86.7	160	1
	86.7		110
	86.7		173
	86.7		4 (P.117)
	86.7		8 (P.117)
	86.8		179
	87	155	1
	87		172
	87.2		109
	87.2		237
	87.5	162	5
	87.5		170
	87.5		171
	87.5		178
	87.8	153	5
	87.8	153	14
	87.9	159	4
	87.9		21
	88.2		192
	88.4		47
	88.4		174
	88.6		125
	88.6		190
	88.7	161	9
	88.9		42
	88.9		9 (P.117)
	89.1		49
	89.1		5 (P.117)
	89.2		45
	89.3	157	11
	89.5		161
	89.5		17 (P.117)
	89.6		153
	89.7	163	4
	89.7		101
	89.7		116
	90		175
	90.2		46
	90.3		43
	90.4	153	10
	90.4		52
	90.5	153	9
	90.6	160	11
	90.9		24
	90.9		59
	90.9		182
	91.2		185
	91.3		88
	91.4		27
	91.4		112
	91.5	157	6
	91.7	154	6
	91.7	158	16
	91.9	154	1
	91.9	152	8
	91.9	155	13
	91.9		44
	92.1		102
	92.1		181
	92.3		23

Category	N/M (%)	Fig. No.	Ceramic No.
⑤	93.2	153	6
	93.2		9
	93.2		39
	93.3		54
	93.8		25
	94	163	3
	94.4		195
	95.1		5
	95.1		158
	95.2		156
	95.2		229
	95.4		51
	95.7		56
	95.9	155	6
	96.3		72
	96.4	153	15
	96.7		199
	96.8	160	8
	96.9	164	6
	97.3	163	15
	97.4		11
	97.5	161	1
	98.2		10
	98.7		244
	98.8	155	19
⑥			1
		163	1
		152	3
		158	3
		159	3
		152	4
		157	5
		159	5
			6
			7
		160	7
		161	8
		153	11
			12
		159	12
		163	13
		161	16
			17
			18
			20
			143
			144
			145
			146
			147
			157
			183
			184
			194
			196
			227
			245
			246
			247

Table 6.83 The classification table of the vessels from Maiden Castle (1)

Category	Form	Surface	(Upper) Body	Neck to Rim
①	1	Decorative	Rounded: curved	Minimal: upright
②	1	Plain	Rounded: high-shouldered	Minimal: upright and strongly slant outwards
	2	Plain	Rounded: curved	Middle: upright and slant outwards
	3	Plain	Rounded: curved	Short: curved outwards
	4	Decorative	Rounded: curved	Middle: upright
	5	Decorative	Rounded: curved	Middle: upright and slightly slant outwards
	6	Decorative	Rounded: curved	Middle: curved outwards
	7	Decorative	Rounded: high-shouldered	Minimal: upright
	8	Decorative	Rounded: straight	Short: upright and slant outwards
	9	Decorative	Rounded: straight and loosely curved	Short: upright and slant outwards
	10	Decorative	Rounded: loosely curved	Minimal: upright and slant outwards
③	1	Plain	Rounded: loosely curved *countersunk-handles	Minimal: upright
	2	Plain	Rounded: straight *countersunk-handles	Simple:
	3	Plain	Rounded: loosely curved	Minimal: upright
	4	Plain	Rounded: high-shouldered	Minimal: upright
	5	Plain	Rounded: loosely curved	Simple
	6	Plain	Rounded: high-shouldered	Long: curved outwards
	7	Decorative	Rounded: high-shouldered	Minimal: upright
	8	Decorative	Rounded: curved	Minimal: upright
	9	Decorative	Rounded: loosely curved	Minimal: upright
	10	Decorative	Rounded: curved	Middle: upright and slant outwards
⑤	1	Plain	Rounded: vertical and shortly straight	Minimal: flat rim-top
	2	Plain	Rounded: vertical and shortly straight	Minimal: inwards thick rim-top
	3	Plain	Rounded: vertical and shortly straight	Minimal: upright
	4	Plain	Rounded: vertical and shortly straight	Middle: upright and slant outwards
	5	Plain	Rounded: vertical and shortly loosely curved	Minimal: upright and slant outwards
	6	Plain	Rounded: vertical and shortly straight	Simple
	7	Plain	Rounded: vertical and shortly straight	Simple
	8	Plain	Rounded: vertical and shortly loosely curved	Short: upright and slant outwards
	9	Plain	Rounded: vertical and straight	Minimal: upright
	10	Plain	Rounded: shortly straight	Middle: upright
	11	Plain	Rounded: shortly curved	Middle: upright and slant outwards
	12	Plain	Inflectional: vertical and straight	Long: curved outwards
	13	Plain	Inflectional: vertical and shortly straight	Minimal: upright
	14	Plain	Inflectional: shortly straight	Minimal: upright
	15	Plain	Inflectional: shortly straight	Long: upright and slant outwards
	16	Plain	Inflectional: vertical and shortly straight	Middle: upright and slant outwards
	17	Decorative	Rounded: vertical and loosely curved	Minimal: upright
	18	Decorative	Rounded: vertical and loosely curved	Minimal: upright
	19	Decorative	Rounded: vertical and loosely curved	Simple
⑥	1	Plain	Rounded: vertical and straight	Simple
	2	Plain	Rounded: vertical and slant outwards	Simple
	3	Plain	Rounded: vertical and slightly slant outwards	Minimal: upright
	4	Plain	Rounded: shortly vertical	Long: upright and slant outwards
	5	Plain	Rounded: shortly vertical	Short: upright and slant outwards
	6	Plain	Rounded: vertical and slightly slant outwards	Simple
	7	Plain	Rounded: loosely curved and strongly slant outwards	Minimal: outwards thick rim-top
	8	Plain	Rounded: loosely curved and slant outwards	Simple: thick and flat rim-top
	9	Plain	Rounded: loosely curved and slant outwards	Simple: thick and hollow rim-top
	10	Plain	Rounded: loosely curved and slant outwards	Simple
	11	Plain	Rounded: straight and strongly slant outwards	Simple
	12	Plain	Rounded: loosely curved and strongly slant outwards	Simple: hollow rim-top
	13	Plain	Rounded: shortly curved	Simple: hollow rim-top
	14	Plain	Rounded: shortly curved	Simple: flat rim-top
	15	Plain	Rounded: loosely curved and strongly slant outwards	Simple: outwards thick and flat rim-top
	16	Plain	Inflectional: shortly vertical	Middle: upright and slant outwards
	17	Plain	Inflectional: straight and slant outwards	Short: upright and slant outwards
	18	Plain	Inflectional: shortly straight and slant outwards	Minimal: upright
	19	Plain	Inflectional: shortly straight and slant outwards	Simple
	20	Decorative	Rounded: loosely curved and strongly slant outwards	Simple
	21	Decorative	Rounded: loosely curved and strongly slant outwards	Simple: hollow rim-top
	22	Decorative	Rounded: loosely curved and slant outwards	Simple
	23	Decorative	Rounded: vertical	Simple
	24	Decorative	Rounded: vertical and slightly slant outwards	Simple
	25	Decorative	Rounded: loosely curved and slant outwards	Simple

※The above classification of vessels is also based on decoration, height and other attributes. (*cf.* Figures)

Table 6.84 The classification table of the vessels from Maiden Castle (2)

Category	Form	Surface	(Upper) Body	Neck to Rim
④	1	Plain	Rounded: loosely curved *countersunk-handles	Minimal: thick and flat rim-top
	2	Plain	Rounded: loosely curved *countersunk-handles	Minimal: upright
	3	Plain	Rounded: loosely curved *countersunk-handles *long body, compared with Forms 1 and 2	Minimal: upright
	4	Plain	Rounded: shortly curved	Short: curved outwards
	5	Plain	Rounded: straight	Short: upright
	6	Plain	Rounded: shortly straight	Short: upright
	7	Plain	Rounded: loosely curved	Short: upright and slant outwards
	8	Plain	Rounded: straight	Short: upright and slant outwards
	9	Plain	Rounded: high-shouldered	Middle: upright and slant outwards
	10	Plain	Rounded: high-shouldered	Short: upright
	11	Plain	Rounded: high-shouldered	Short: curved outwards
	12	Plain	Rounded: curved	Middle: curved outwards
	13	Plain	Rounded: loosely curved	Long: curved outwards
	14	Plain	Rounded: loosely curved	Short: curved outwards
	15	Plain	Rounded: shortly straight	Middle: upright
	16	Plain	Rounded: loosely curved and vertical	Middle or short: upright and slant outwards
	17	Plain	Rounded: loosely curved	Short: upright and slant outwards
	18	Plain	Rounded: curved	Short: upright
	19	Plain	Rounded: shortly loosely curved	Minimal: outwards thick and flat rim-top
	20	Plain	Rounded: shortly loosely curved	Short: upright and slant outwards
	21	Plain	Rounded: loosely curved	Short: upright, slant and bent outwards
	22	Plain	Rounded: curved	Middle: upright and slant outwards
	23	Plain	Rounded: high-shouldered	Short: upright and slant outwards
	24	Plain	Rounded: loosely curved	Short: upright and slant outwards
	25	Plain	Rounded: loosely curved	Simple: hollow rim-top
	26	Plain	Rounded: shortly loosely curved	Middle: curved outwards
	27	Plain	Rounded: vertical and loosely curved * a handle	Minimal: upright
	28	Plain	Rounded: shortly loosely curved	Minimal: thick and flat rim-top
	29	Plain	Rounded: straight	Short: upright and strongly slant outwards
	30	Plain	Rounded: loosely curved	Short: upright and slant outwards
	31	Plain	Rounded: shortly loosely curved	Minimal: upright
	32	Plain	Rounded: curved	Simple or Minimal: upright
	33	Plain	Rounded: high-shouldered	Simple or Minimal: upright
	34	Plain	Rounded: high-shouldered	Simple: hollow rim-top
	35	Plain	Rounded: shortly curved	Minimal: upright
	36	Plain	Rounded: loosely curved	Simple or Minimal: upright
	37	Plain	Rounded: shortly loosely curved	Simple or Minimal: upright
	38	Plain	Rounded: shortly curved	Simple or Minimal: upright
	39	Plain	Rounded: curved	Minimal: upright
	40	Plain	Rounded: long vertical and slightly loosely curved	Minimal: upright
	41	Plain	Rounded: vertical and loosely curved	Minimal: upright and slant outwards
	42	Plain	Rounded: vertical and loosely curved	Minimal: upright
	43	Plain	Rounded: shortly loosely curved *a pedestal	Minimal: upright
	44	Plain	Rounded: shortly loosely curved	Minimal: upright
	45	Plain	Rounded: shortly curved *a high pedestal	Minimal: upright and slant outwards
	46	Plain	Rounded: very shortly loosely curved	Simple
	47	Plain	Rounded: curved	Minimal: upright
	48	Plain	Rounded: straight	Minimal: upright
	49	Plain	Rounded: vertical and very shortly straight	Simple
	50	Plain	Rounded: long loosely curved	Minimal: upright and slant outwards
	51	Plain	Rounded: loosely curved	Minimal: upright and slant outwards
	52	Plain	Rounded: very shortly loosely curved	Minimal
	53	Plain	Inflectional: loosely curved	Simple or Minimal: upright
	54	Plain	Inflectional: loosely curved, but somewhat straight	Simple or Minimal: upright
	55	Plain	Inflectional: very shortly straight	Simple
	56	Plain	Inflectional: shortly straight	Simple
	57	Plain	Inflectional: shortly straight	Short: curved outwards
	58	Decorative	Rounded: loosely curved	Middle: upright and slant outwards
	59	Decorative	Rounded: straight	Short: upright and slant outwards
	60	Decorative	Rounded: very shortly straight very shortly straight	Short or Minimal: upright and slant outwards
	61	Decorative	Rounded: high-shouldered	Middle: curved outwards
	62	Decorative	Rounded: curved	Middle: upright and slant outwards
	63	Decorative	Rounded: loosely curved	Middle: curved outwards
	64	Decorative	Rounded: loosely curved	Short: upright and slant outwards
	65	Decorative	Rounded: curved	Middle: upright and slant outwards

※The above classification of vessels is also based on decoration, height and other attributes. (*cf.* Figures)

Table 6.85　The classification table of the vessels from Maiden Castle (3)

Category	Form	Surface	(Upper) Body	Neck to Rim
④	66	Decorative	Rounded: curved	Middle: curved outwards
	67	Decorative	Rounded: straight	Long: curved outwards
	68	Decorative	Rounded: high-shouldered	Middle: upright and bent
	69	Decorative	Rounded: curved	Middle: upright and bent
	70	Decorative	Rounded: curved	Middle: upright and slant outwards
	71	Decorative	Rounded: high-shouldered	Middle: upright and slant outwards
	72	Decorative	Rounded: high-shouldered	Minimal: upright and strongly slant outwards
	73	Decorative	Rounded: loosely curved	Short: upright
	74	Decorative	Rounded: shortly loosely curved	Simple
	75	Decorative	Rounded: vertical and loosely curved	Minimal: upright
	76	Decorative	Rounded: shortly curved	Middle: curved outwards
	77	Decorative	Rounded: shortly loosely curved	Short: upright
	78	Decorative	Rounded: curved	Simple or Minimal: upright
	79	Decorative	Rounded: shortly loosely curved	Middle: upright and slant outwards
	80	Decorative	Rounded: loosely curved	Short: upright
	81	Decorative	Rounded: vertical and loosely curved	Simple
	82	Decorative	Rounded: vertical and loosely curved	Short: upright
	83	Decorative	Rounded: straight	Short: upright
	84	Decorative	Rounded: very shortly straight	Short: upright and slant outwards
	85	Decorative	Rounded: shortly loosely curved	Minimal: upright
	86	Decorative	Rounded: loosely curved	Minimal: thick and flat rim-top
	87	Decorative	Rounded: loosely curved	Simple
	88	Decorative	Rounded: shortly loosely curved	Minimal: upright
	89	Decorative	Rounded: shortly loosely curved	Minimal: upright
	90	Decorative	Rounded: curved	Minimal: thick and flat rim-top
	91	Decorative	Rounded: shortly loosely curved	Minimal: upright
	92	Decorative	Rounded: shortly loosely curved	Minimal: upright
	93	Decorative	Rounded: shortly loosely curved	Minimal: upright
	94	Decorative	Rounded: shortly loosely curved	Minimal: upright
	95	Decorative	Rounded: shortly curved	Minimal: upright
	96	Decorative	Rounded: shortly curved	Minimal: upright
	97	Decorative	Rounded: loosely curved	Minimal: upright and slant outwards
	98	Decorative	Rounded: high-shouldered	Minimal: thick and flat rim-top
	99	Decorative	Rounded: loosely curved	Simple: flat rim-top
	100	Decorative	Rounded: loosely curved	Minimal: thick and flat rim-top
	101	Decorative	Rounded: shortly curved	Minimal: upright
	102	Decorative	Rounded: very shortly loosely curved	Minimal: upright
	103	Decorative	Inflectional: straight	Short: upright and slant outwards
	104	Decorative	Inflectional: straight	Simple
	105	Decorative	Inflectional: very shortly straight	Simple

※The above classification of vessels is also based on decoration, height and other attributes. (*cf.* Figures)

Table 6.86　The information on the number of vessels form Maiden Castle

Category	number of vessels	%	number of Forms	average number
①	1	0.4	1	1
②	10	3.6	10	1
③	15	5.5	10	1.5
④	180	69.1	105	1.8
⑤	25	9.1	19	1.3
⑥	34	12.4	25	1.4
Total	**275**	**100**	**170**	**1.6**

Table 6.87　The date of Phase 6 in Trench IV of the Maiden Castle excavation in 1985-6

Phase	Absolute dates	key materials etc.
6H	the first century BC into the first century AD	archaeomagnetic dating,　(La Tène I and II brooches), amphorae, vessels
6G	the late second century BC	(La Tène II brooch), bridle bit, vessels
6F	the early second century BC	archaeomagnetic dating, decorated glass bead, vessels
6E	the third century BC	penannular brooch, vessels

Table 6.88 The three ratio groups of Iron Age vessels in central-southern Britain

Site name	Group A	Group B	Group C	Category (Group A/B/C)
Bury Hill	-	72-100 %	-	0/ 1,2/ 3
Woolbury	47-56 %	75-100 %	-	1/ 2/ 3
Suddern Farm	42-70 %	74-100 %	-	1,2/ 3/ 4
Danebury	57-76 %	76-100 %	-	1-6/ 7-9/ 10
Houghton Down	69-71 %	75-100 %	-	1/ 2,3/ 4
Old Down Farm	47-61 %	66-100 %	-	1,2/ 3/ 4
Nettlebank Copse	33-61 %	67-100 %	-	1-3/ 4-6/ 7
Balksbury Camp	52-53 %	71-100 %	-	1/ 2,3/ 4
Hengistbury Head	41-77 %	77-100 %	-	1-9/ 10-11/ 12

Table 6.89 The constituent ratios of the three ratio groups of Iron Age vessels in central-southern Britain (1)

Site name	Group A	Group B	Group C	Number of vessels	Category (Group A/B/C)
Bury Hill	0	57.6	42.4	33	0/ 1,2/ 3
Woolbury	8.3	63.9	27.8	36	1/ 2/ 3
Suddern Farm	4.8	70.9	24.2	227	1,2/ 3/ 4
Danebury	8.4	69.9	21.7	535	1-6/ 7-9/ 10
Houghton Down	2.8	79.2	18.1	72	1/ 2,3/ 4
Old Down Farm	3.2	79	17.7	62	1,2/ 3/ 4
Nettlebank Copse	1.7	87.9	10.3	174	1-3/ 4-6/ 7
Balksbury Camp	2.2	89.1	8.7	46	1/ 2,3/ 4
Hengistbury Head	24.4 (%)	70.4 (%)	5.2 (%)	757	1-9/ 10-11/ 12

Table 6.90 The fundamental classification of the Major Forms (1)

Site	Major Form	Rounded	Inflectional	Plain	Decorative
Bury Hill	①-2				
	②-4				
	③-1				
Woolbury	②-3				
	②-5				
	②-6				
	③-1				
	③-2				
	③-7				
Suddern Farm	②-1				
	②-2				
	③-1				
	③-3				
	③-8				
	③-12				
	③-13				
	③-14				
	③-15				
	③-17				
	③-20				
	③-24				
	③-34				
	④-3				
	④-7				
	④-11				

Table 6.91 The fundamental classification of the Major Forms (2)

Site	Major Form	Rounded	Inflectional	Plain	Decorative
Danebury	④ - 7				
	④ - 10				
	⑤ - 5				
	⑥ - 5				
	⑥ - 7				
	⑦ - 7				
	⑧ - 5				
	⑧ - 10				
	⑧ - 12				
	⑧ - 14				
	⑧ - 16				
	⑧ - 17				
	⑨ - 15				
	⑨ - 35				
	⑨ - 49				
	⑨ - 50				
	⑨ - 62				
	⑨ - 65				
	⑨ - 71				
	⑨ - 73				
	⑨ - 84				
	⑨ - 85				
	⑨ - 86				
	⑨ - 87				
	⑨ - 89				
	⑨ - 93				
	⑨ - 97				
	⑨ - 99				
	⑨ - 100				
	⑨ - 101				
	⑨ - 104				
	⑨ - 105				
	⑨ - 106				
	⑨ - 108				
	⑨ - 113				
	⑨ - 114				
	⑨ - 115				
	⑨ - 121				
	⑨ - 122				
	⑨ - 126				
	⑩ - 1				
	⑩ - 4				
	⑩ - 5				
	⑩ - 10				
	⑩ - 11				
	⑩ - 14				
	⑩ - 15				
	⑩ - 16				
	⑩ - 28				
	⑩ - 29				
	⑩ - 30				
	⑩ - 31				
Houghton Down	③-9				
	③-10				
	③-12				
	③-13				
	③-14				
	④-2				

Table 6.92　The fundamental classification of the Major Forms (3)

Site	Major Form	Rounded	Inflectional	Plain	Decorative
Old Down Farm	③-1	■		■	
	③-2	■		■	
	③-5	■		■	
	③-10	■		■	
	③-12		■	■	
	③-16	■			■
	③-22		■		■
	④-1	■		■	
	④-2	■		■	
Nettlebank Copse	④-2	■		■	
	④-3	■		■	
	⑤-10	■		■	
	⑤-11	■		■	
	⑤-12	■		■	
	⑤-13	■		■	
	⑤-14	■		■	
	⑤-15	■		■	
	⑤-18	■		■	
	⑤-19	■		■	
	⑤-20	■			■
	⑦-2	■			■
	⑦-6	■		■	
	⑦-7	■		■	
	⑦-9		■	■	
Balksbury Camp	②-4	■		■	
	②-5	■		■	
	③-1	■		■	
	③-2	■		■	
	③-3	■		■	
	③-5	■		■	
	③-6	■		■	
	④-3	■			■
Hengistbury Head	①～③	■		■	■
	④～⑨-1	■		■	
	④～⑨-4	■			■
	④～⑨-5	■			■
	④～⑨-6	■			■
	④～⑨-9	■			■
	④～⑨-11	■		■	
	⑩-1		■	■	
	⑩-3		■	■	
	⑩-4	■		■	
	⑩-8	■		■	
	⑩-9	■		■	
	⑩-11		■	■	
	⑩-12	■		■	
	⑩-13	■		■	
	⑩-14	■		■	
	⑩-17	■			■
	⑩-20		■		■
	⑩-21	■			■
	⑩-22	■			■
	⑩-25		■		■
	⑩-26	■			■
	⑩-27		■		■
	⑩-29		■		■
	⑩-31	■			■
	⑩-34	■			■
	⑩-35	■			■
	⑩-39		■		■
	⑫-1	■		■	
	⑫-2	■		■	
	⑫-3	■			■
	⑫-4	■			■

Table 6.93 The comparison between the major forms from Iron Age sites in central-southern Britain (1)

Site name	Form	BH	W	SF	ODF	BC	NC	HD	D	HH
Old Down Farm	③-1		②-3	③-12,20		②-4	⑤-18		⑧-10	⑩-12
	③-2					②-5			⑧-16	⑩-12
	③-5									
	③-10	①-2		③-14		③-3		③-12	⑨-104,106	⑩-12
	③-12								⑨-122	⑩-11
	③-16									
	③-22									
	④-1	③-1						④-2	⑩-30	⑫-2
	④-2						⑦-6		⑩-31	
Balksbury Camp	②-4			③-20	③-1		⑤-18			⑩-12
	②-5			③-8	③-2		⑤-13		⑧-16	⑩-12
	③-1							③-14	⑨-104	
	③-2									
	③-3	①-2		③-14	③-10			③-12	⑨-104,106	⑩-12
	③-5			③-15					⑨-101	⑩-12
	③-6								⑨-65	
	④-3									
Bury Hill	①-2			③-14	③-10	③-3		③-12	⑨-104,105	⑩-12
	②-4			③-13				③-12	⑨-113	⑩-12
	③-1				④-1		⑦-6	④-2	⑩-29	⑫-2
Woolbury	②-3			③-12,20	③-1		⑤-19		⑨-100	⑩-12
	②-5			③-14				③-12	⑨-104	
	②-6									
	③-1			④-7			⑦-9			
	③-2									
	③-7								⑩-29	⑫-4
Suddern Farm	②-1									④～⑨-1
	②-2									
	③-1						⑤-11		⑨-62	⑩-8
	③-3						⑤-15			
	③-8					②-5	⑤-13		⑦-7,⑧-16 ⑨-87	⑩-12
	③-12		②-3		③-1		⑤-19		⑨-100	⑩-12
	③-13	②-4						③-12	⑨-113	⑩-12
	③-14	①-2	②-5		③-10	③-3		③-12	⑨-104	⑩-12
	③-15					③-5			⑨-89,101,108	⑩-12
	③-17							③-10		
	③-20		②-3		③-1	②-4	⑤-18		⑧-10,⑨-93	⑩-12
	③-24						⑤-14			
	③-34								⑨-49	
	④-3						⑦-7			
	④-7		③-1				⑦-9			
	④-11									
Nettlebank Copse	④-2									④～⑨-1
	④-3									
	⑤-10								⑨-62	
	⑤-11			③-1					⑨-62	⑩-8
	⑤-12								⑨-89	⑩-9
	⑤-13			③-8		②-5			⑦-7	
	⑤-14			③-24						
	⑤-15			③-3						
	⑤-18			③-20	③-1	②-4			⑧-10	
	⑤-19		②-3	③-12					⑧-12,⑨-100	⑩-12
	⑤-20									
	⑦-2									
	⑦-6	③-1			④-2				⑩-31	
	⑦-7			④-3						
	⑦-9		③-1	④-7						

* (from left) Bury Hill, Woolbury, Suddern Farm, Old Down Farm, Balksbury Camp,
Nettlebank Copse, Houghton Down, Danebury, Hengistbury Head

Table 6.94　The comparison between the major forms from Iron Age sites in central-southern Britain (2)

Site name	Form	BH	W	SF	ODF	BC	NC	HD	D	HH
Houghton Down	③-9								⑨-87	
	③-10			③-17					⑨-99	⑩-9
	③-12	①-2, ②-4	②-5	③-13, 14	③-10	③-3			⑨-104,113	
	③-13									
	③-14					③-1			⑨-106	
	④-2	③-1			④-1				⑩-30	⑫-2
Danebury	④-7									④～⑨-11
	④-10									
	⑤-5									
	⑥-5									
	⑥-7									
	⑦-7			③-8			⑤-13			
	⑧-5									
	⑧-10			③-20	③-1		⑤-18			⑩-12
	⑧-12						⑤-19			
	⑧-14									⑩-4
	⑧-16			③-8	③-2	②-5				
	⑧-17									⑩-12
	⑨-15									
	⑨-35									
	⑨-49			③-34						
	⑨-50									
	⑨-62			③-1			⑤-10,11			⑩-8
	⑨-65					③-6				
	⑨-71									
	⑨-73									
	⑨-84									
	⑨-85									
	⑨-86									
	⑨-87			③-8				③-9		
	⑨-89			③-15			⑤-12			
	⑨-93			③-20						⑩-12
	⑨-97									
	⑨-99							③-10		
	⑨-100		②-3	③-12			⑤-19			⑩-12
	⑨-101			③-15		③-5				
	⑨-104	①-2	②-5	③-14	③-10	③-1,3		③-12		⑩-12
	⑨-105	①-2								
	⑨-106				③-10	③-3		③-14		
	⑨-108			③-15						
	⑨-113	②-4		③-13				③-12		
	⑨-114									⑩-12
	⑨-115									
	⑨-121									⑩-14
	⑨-122				③-12					⑩-11
	⑨-126									⑩-3
	⑩-1									
	⑩-4									
	⑩-5									
	⑩-10									⑫-4
	⑩-11		③-7							
	⑩-14									
	⑩-15									
	⑩-16									
	⑩-28									
	⑩-29	③-1								⑫-2
	⑩-30				④-1			④-2		
	⑩-31				④-2		⑦-6			

* (from left)　Bury Hill,　Woolbury, Suddern Farm,　Old Down Farm,　Balksbury Camp,

Nettlebank Copse,　Houghton Down,　Danebury,　Hengistbury Head

Table 6.95　The comparison between the major forms from Iron Age sites in central-southern Britain (3)

Site name	Form	BH	W	SF	ODF	BC	NC	HD	D	HH
Hengistbury Head	①〜③									
	④〜⑨-1			②-1			④-2			
	④〜⑨-4									
	④〜⑨-5									
	④〜⑨-6									
	④〜⑨-9									
	④〜⑨-11								④-7	
	⑩-1									
	⑩-3								⑨-126	
	⑩-4								⑧-14	
	⑩-8			③-1			⑤-11		⑨-62	
	⑩-9						⑤-12	③ -10		
	⑩-11				③-12					
	⑩-12	①-2,② -4	② -3	③-8,12,13, ③-14,15,20	③-1,2,10	②-4,5 ③-3,5	⑤-19		⑧-10,17 ⑨-93, ⑨-100,104,114	
	⑩-13									
	⑩-14								⑨-121	
	⑩-17									
	⑩-20									
	⑩-21									
	⑩-22									
	⑩-25									
	⑩-26									
	⑩-27									
	⑩-29									
	⑩-31									
	⑩-34									
	⑩-35									
	⑩-39									
	⑫-1									
	⑫-2	③-1			④-1			④-2	⑩-29	
	⑫-3									
	⑫-4		③ -7						⑩-10	

* (from left)　Bury Hill,　Woolbury, Suddern Farm,　Old Down Farm,　Balksbury Camp,
Nettlebank Copse,　Houghton Down,　Danebury,　Hengistbury Head

Table 7.1　Distribution of World's laboratories conducting AMS radiocarbon dating　(source: Nakamura 2004)

Country	Number of laboratories
US	12
Japan	8
UK	4
China	3
Germany	3
Australia	3
Sweden	3
Netherlands	2
France	2
Switzerland	2
Austria	1
Brazil	1
Canada	1
Denmark	1
Finland	1
India	1
Italy	1
New Zealand	1
Poland	1
South Korea	1

Table 7.2　Old (left) and new (right) ceramic chronologies of Danebury　(source: Cunliffe 1984a, Cunliffe 1995)

Ceramic Phase	Cunliffe 1984a		Ceramic Phase	Cunliffe 1995
1-3	550-450 BC		3	470-360 BC
4-5	450-400 BC		4-5	360-310 BC
6	400-300 BC		6	310-270 BC
7	300-100/50 BC		7	270-50 BC
-	-		8-9	50 BC-AD 50

Table 7.3　Pairs of significantly different radiocarbon dates between samples from same contexts in Danebury　(source: Cunliffe 1984a)

Median	Context	HAR no.	Material	Age BP	Calibrated date (68.2%)	Calibrated date (95.4%)	cp
185 BC	Pit 589	968	grain	2140 ± 80	354 BC to 54 BC	384 BC to AD 1	7
373 BC	Pit 589	4366	bone	2300 ± 100	510 BC to 203 BC	756 BC to 114 BC	7
157 BC	Pit 1089 layer 5	2969	grain	2120 ± 70	349 BC to 46 BC	366 BC to AD 5	7
489 BC	Pit 1089 layer 5	2975	charcoal	2370 ± 70	731 BC to 384 BC	762 BC to 234 BC	7
AD 3	Pit 1078 layer 10	2974	charcoal + grain	1990 ± 70	92 BC to AD 85	195 BC to AD 209	7
228 BC	Pit 1078 layer 10	2972	charcoal	2170 ± 70	361 BC to 118 BC	386 BC to 52 BC	7

* cp: ceramic phase

Table 7.4 Data on radiocarbon date from the Battlesbury Bowl site in Wiltshire (source: Ellis *et al.* 2008)

Feature	*Context*	*Material*	*Lab. No.*	*Result BP*	*δC¹³‰*	*cal BC (2σ)*
Phase 1/2: 800–350 cal BC						
Ditch 4043	4101 (section 4105)	cattle skull frags (3029)	NZA-17103	2503±40	-20.53	790–420
		cow radius	NZA-13629	2435±70	-21.07	770–400
	4170 (section 4090)	cow femur	NZA-13630	2445±55	-20.86	770–400
Phase 3: 350–200 cal BC						
Pit 5043	5137	pig humerus (3282)	NZA-13634	2247±70	-20.09	420–100
Pit 4707	4811	corvid skeleton (3423)	NZA-17107	2277±40	-19.23	400–200
		horse skull (3219) – cleaned	NZA-17106	2225±50	-21.59	400–160
Pit 4332	4385	horse metapodial, articulated	NZA-17104	2276±45	-21.61	400–200
		human right foot (3016), articulated	NZA-17105	2262±40	-19.62	400–200
	4571	human right femur	NZA-13633	2258±55	-20.11	410–190
Hearth 5711	5959	charcoal: *Prunus spinosa*	NZA-13635	2265±55	-24.24	410–180
Pit 5750	5752	cow 1st phalanges	NZA-17102	2236±50	-21.46	400–180
Pit 5358	5848	cow vertebra, articulated	NZA-13635	2168±55	-21.38	380–100
		cattle vertebrae (3420), articulated	NZA-17108	2241±40	-20.61	390–190
Pit 4868	4884	hornless cattle skull (3238)	NZA-17101	2232±40	-21.28	390–190
Phase 4: 200 cal BC–AD 43						
Pit 4272	4346	human right femur	NZA-13632	2127±85	-20.04	300–AD 20
Pit 4320	4322	human right femur	NZA-13631	2083±70	-19.82	360–AD 60

Table 7.5 Four groups of ceramic samples for thermoluminescence dating at Dragonby in Lincolnshire (source: Stoneham *et al.* 1996)

Phase Group	**Stratigraphic information and chronology based on ceramic typological classification**
A	(from) enclosure ditches: stratigraphically the earliest Iron Age; typologically distinct
B	(from) the latest of a group of Iron Age ditches; (with) Colchester and type C penannular brooches; *ceramic stage 11*: c. **AD 70**
C	(from) a ditch; *ceramic stage 10*: c. **AD 60**
D	(from) stratigraphically early features and later features; typologically early; earlier in date than the development of La Tène III-related pottery in the East midlands some time during **the 1st century BC**

Table 8.1 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (1)

Haselgrove, C. and Moore, T. (*eds.*) (2007)   ***The Later Iron Age in Britain and Beyond***
1. New narratives of the Later Iron Age *(Haselgrove, C. and Moore, T.)*   2. The dynamics of social change in Later Iron Age eastern and south-eastern England *c.* 300 BC-AD 43 *(Hill, J.D.)*   3. Life on the edge? Exchange, community, and identity in the Later Iron Age of the Severn-Cotswolds *(Moore, T.)*   4. Central places or special places? The origins and development of '*oppida*' in Hertfordshire *(Bryant, S.)*   5. Cultural choices in the 'British Eastern Channel Area' in the Late Pre-Roman Iron Age *(Hamilton, S.)*   6. Sea, coast, estuary, land, and culture in Iron Age Britain *(Willis, S.)*   7. Social landscapes and identities in the Irish Iron Age *(Armit, I.)*   8. Re-situating the Later Iron Age in Cornwall and Devon: new perspectives from the settlement record *(Cripps, L.J.)*   9. Unravelling the Iron Age landscape of the Upper Thames valley *(Hey, G.)*   10. Rooted to the spot: the 'smaller enclosures' of the later first millennium BC in the central Welsh Marches *(Wigley, A.)*   11. From open to enclosed: Iron Age landscapes of the Trent valley *(Knight, D.)*   12. Realigning the world: pit alignments and their landscape context *(Rylatt, J. and Bevan, B.)*   13. Good fences make good neighbours? Exploring the ladder enclosures of Late Iron Age East Yorkshire *(Giles, M.)*   14. Putting the neighbours in their place? Displays of position and possession in northern Cheviot 'hillfort' design *(Frodsham, P., Hedley, I. and Young, R.)*   15. Dominated by unenclosed settlement? The Later Iron Age in eastern Scotland north of the Forth *(Davies, M.H.)*   16. Artefacts, regions and identities in the northern British Iron Age *(Hunter, F.)*   17. Silent Silures? Locating people and places in the Iron Age of south Wales *(Gwilt, A.)*   18. Perspectives on insular La Tène art *(Macdonald, P.)*   19. Dancing with dragons: fantastic animals in the earlier Celtic art of Iron Age Britain *(Fitzpatrick, A.P.)*   20. An archaeological investigation of Later Iron Age Norfolk: analysing hoarding patterns across the landscape *(Hutcheson, N.)*   21. Detecting the Later Iron Age: a view from the Portable Antiquities Scheme *(Worrell, S.)*   22. The end of the Sheep Age: people and animals in the Late Iron Age *(Albarella, U.)*   23. To fish or not to fish? Evidence for the possible avoidance of fish consumption during the Iron Age around the North Sea *(Dobney, K. and Ervynck, A.)*   24. The production and consumption of cereals: a question of scale *(van der Veen, M. and Jones, G.)*   25. Making magic: later prehistoric and early Roman salt production in the Lincolnshire fenland *(Morris, E.L.)*   26. Excarnation to cremation: continuity or change? *(Carr, G.)*   27. Households and social change in Jutland, 500 BC-AD 200 *(Webley, L.)*   28. Weapons, ritual, and communication in Late Iron Age northern Europe *(Wells, P.S.)*   29. Understanding social change in the Late Iron Age Lower Rhine region *(Roymans, N.)*   30. The age of enclosure: Later Iron Age settlement and society in northern France *(Haselgrove, C.)*   31. The polities of Gaul, Britain, and Ireland in the Late Iron Age *(Collis, J.)*

Table 8.2 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (2)

Haselgrove, C. and Pope, R. (*eds.*) (2007) ***The Earlier Iron Age in Britain and the Near Continent***
1. Characterising the Earlier Iron Age *(Haselgrove, C. and Pope, R.)* 2. The character of Late Bronze Age settlement in southern Britain *(Brück, J.)* 3. 800 BC, The Great Divide *(Needham, S.)* 4. Llyn Fawr metalwork in Britain: a review *(O'Connor, B.)* 5. Intensification of animal husbandry in the Late Bronze Age? The contribution of sheep and pigs *(Serjeantson, D.)* 6. After 'Celtic' fields: the social organisation of Iron Age agriculture *(Bradley, R. and Yates, D.)* 7. Refiguring rights in the Early Iron Age landscapes of East Yorkshire *(Giles, M.)* 8. Pitted histories: early first millennium BC pit alignments in the central Welsh Marches *(Wigley, A.)* 9. Environmental evidence from the Iron Age in north central Britain: putting archaeology in its place *(Huntley, J.P.)* 10. Simple tools for tough tasks or tough tools for simple tasks? Analysis and experiment in Iron Age flint utilisation *(Humphrey, J.)* 11. A bloodless past: the pacification of Early Iron Age Britain *(James, S.)* 12. Building communities and creating identities in the first millennium BC *(Sharples, N.)* 13. Deposits and doorways: patterns within the Iron Age settlement at Crick Covert Farm, Northamptonshire *(Woodward, A. and Hughes, G.)* 14. Ritual and the roundhouse: a critique of recent ideas on the use of domestic space in later British prehistory *(Pope, R.)* 15. The character of Earlier Iron Age societies in Scotland *(Ralston, I. and Ashmore, P.)* 16. The Early Iron Age of the Peak District: re-reading the evidence *(Bevan, B.)* 17. The Early to Later Iron Age transition in the Severn-Cotswolds: enclosing the household? *(Moore, T.)* 18. The aesthetics of landscape on the Berkshire Downs *(Gosden, C. and Lock, G.)* 19. Settlement in Kent from 1500 to 300 BC *(Champion, T.)* 20. The Atlantic West in the Early Iron Age *(Henderson, J.C.)* 21. English and Danish Iron Ages - a comparison through houses, burials and hoards *(Sørensen, M.L.S.)* 22. Familiar landscapes with unfamiliar pasts? Bronze Age barrows and Iron Age communities in the southern Netherlands *(Gerritsen, F.)* 23. The emergence of early Iron Age ‘chieftains’ graves in the southern Netherlands: reconsidering transformations in burial and depositional practices *(Fontijn, D. and Fokkens, H.)* 24. Early La Tène burial practices and social (re)constructions in the Marne-Moselle region *(Diepeveen-Jansen, M.)* 25. Boundaries and identity in Early Iron Age Europe *(Wells, P.S.)* 26. Rethinking Earlier Iron Age settlement in the eastern Paris Basin *(Haselgrove, C.)*

Table 8.3 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (3)

Woodward, A. and Hill, J.D. *(eds.)* (2002)
Prehistoric Britain: the Ceramic Basis
1. Introduction *(Woodward, A. and Hill, J.D.)*
2. A date with the past: late Bronze Age and Iron Age pottery and chronology *(Willis, S.)*
3. The nature of archaeological deposits and finds assemblages *(Pollard, J.)*
4. Aspects of manufacture and ceramic technology *(Gibson, A.)*
5. Between ritual and routine: interpreting British prehistoric pottery production and distribution *(Hamilton, S.)*
6. Staying alive: the function and use of prehistoric ceramics *(Morris, E.L.)*
7. Sherds in space: pottery and the analysis of site organisation *(Woodward, A.)*
8. Pottery and the expression of society, economy and culture *(Hill, J.D.)*
9. Ceramic lives *(Barclay, A.)*
10. Pots as categories: British beakers *(Boast, R.)*
11. Inclusions, impressions and interpretation *(Woodward, A.)*
12. A regional ceramic sequence: pottery of the first millennium BC between the Humber and Nene *(Knight, D.)*
13. Just about the potter's wheel? using, making and depositing middle and later Iron Age pots in East Anglis *(Hill,J.D.)*
14. Roman pottery in Iron Age Britain *(Fitzpatrick, A. and Timby, J.)*

Table 8.4 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (4)

Bevan, B. *(ed.)* (1999)
Northern Exposure: Interpretative Devolution and Iron Ages in Britain
1. Northern exposure: interpretative devolution and the Iron Ages in Britain *(Bevan, B.)*
2. Here be dragons! The continuing influence of Roman attitudes to northern Britain *(Webster, J.)*
3. Nineteenth century legacies *(Collis, J.)*
4. Research and regionality: south Yorkshire as an example *(Robbins, G.)*
5. Welsh Celts or Celtic Wales? The production and consumtion of a (not so) different Iron Age *(Piccini, A.)*
6. Life after Hownam: the Iron Age in south-east Scotland *(Armit, I.)*
7. Without and within: aspects of culture and community in the Iron Age of north-eastern England *(Willis, S.)*
8. Beyond the Pale: some thoughts on the later prehistory opf the Breamish Valley *(Adams, M.)*
9. Land~life~death~regeneration: interpreting a middle Iron Age landscape in eastern Yorkshire *(Bevan, B.)*
10. Digging ditches, but Missing Riches? ways into the Iron Age and Romano-British cropmark landscapes of the north midlands *(Chadwick, A.)*
11. The Iron Age of north-west England and Irish sea trade *(Matthews, K.J.)*
12. Variation in the size distribution of hillforts in the Welsh marches and its implication for social organisation *(Jackson, D.)*
13. Learning to live in the Iron Age: dwelling and praxis *(Giles, M. and Parker Pearson, M.)*
14. The creation of later prehistoric landscapes and the context of the reuse of Neolithic and earlier Bronze Age monuments in Britain and Ireland *(Hingley, R.)*
15. Iron Age societies in central Britain: retrospect and prospect *(Haselgrove, C.)*

Table 8.5 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (5)

Gwilt, A. and Haselgrove, C. *(eds.)* (1997) ***Reconstructing Iron Age Societies; New Approaches to the British Iron Age***
1. Approaching the Iron Age (*Gwilt, A. and Haselgrove, C.*) 2. Iron, ironworking and regeneration: a study of the symbolic meaning of metalworking in Iron Age Britain *(Hingley, R.)* 3. Studying Iron Age production *(De Roche, C.D.)* 4. Size and style: an alternative study of some Iron Age pottery in southern England *(Woodward, A.)* 5. Where is the Danebury ware? *(Morris, E.L.)* 6. Marketing and commerce in late Iron Age Dorset: the Wareham/Poole harbour pottery industry *(Brown, L.)* 7. Copper metallurgy in Iron Age Britain: some recent research *(Dungworth, D.)* 8. Iron Age brooch deposition and chronology *(Haselgrove, C.)* 9. Everyday life in Iron Age Wessex *(Fitzpatrick, A.P.)* 10. A doorway on the past: practical and mystic concerns in the orientation of roundhouse doorways *(Oswald, A.)* 11. ‘The end of one kind of body and the beginning of another kind of body’? toilet instruments and ‘Romanization’ *(Hill, J.D.)* 12. Iron Age hoarding in Scotland and northern England *(Hunter, F.)* 13. Text expectations: the archaeology of ‘Celtic’ ritual wells and shafts *(Webster, J.)* 14. The shrine at South Cadbury Castle: belief enshrined? *(Downes, J.)* 15. Popular practices from material culture: a case study of the Iron Age settlement at Wakerley, Northamptonshire *(Gwilt, A.)* 16. The ritual framework of excarnation by exposure as the mortuary practice of the early and middle Iron Ages of central southern Britain *(Carr, G. and Knüsel, C.)* 17. Death and time: the structure of late Iron Age mortuary ritual *(Pearce, J.)* 18. Bounding the landscape: place and identity during the Yorkshire wolds Iron Age *(Bevan, B.)* 19. Space and place: some thoughts on Iron Age and Roman-British landscapes *(Taylor, J.)* 20. Settlement, materiality and landscape in the Iron Age of the East Midlands: evidence, interpretation and wider resonance *(Willis, S.)* 21. Hydraulic communities: Iron Age enclosure in the East Anglian fenlands *(Evans, C.)* 22. Space and society in the Iron Age of north-east England *(Ferrel, G.)* 23. Pollen analysis and the impact of Rome on native agriculture around Hadrian’s Wall *(Tipping, R.)* 24. Cultural landscapes and identities: a case study in the Scottish Iron Age *(Armit, I.)* 25. Why were brochs built? Recent studies in the Iron Age of Atlantic Scotland *(Sharples, N. and Parker Pearson, M.)* 26. Architecture and the household: a response to Sharples and Parker Pearson *(Ian Armit)* 27. The late Iron Age in Hertfordshire and the North Chilterns *(Bryant, S.R. and Niblett, R.)* 28. Verlamion reconsidered *(Haselgrove, C. and Millett, M.)* 29. Dynamic, descriptive and dead-end models: views of a ageing revolutionary *(Collis, J.)* 30. Iron Age landscapes and cultural biographies *(Gosden, C.)* 31. Ironies *(Johnson, M.)*

Table 8.6 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (6)

Champion, T.C. and Collis, J.R. *(eds.)* (1996)   ***The Iron Age in Britain and Ireland: Recent Trends***
1. Across the divide *(Collis, J.)*   2. Environment in the first millennium BC *(Bell, M.)*   3. The exploitation of animals in the Iron Age: the archaeozoological evidence *(Maltby, M.)*   4. Plant exploitation *(Jones, M.)*   5. Artefact production and exchange in the British Iron Age *(Morris, E.)*   6. Iron Age coinage: recent work *(Haselgrove, C.)*   7. Hill-forts, enclosures and boundaries *(Collis, J.)*   8. Hill-forts and the Iron Age of Wessex *(Hill, J.D.)*   9. Food, fertility and front doors in the first millennium BC *(Parker Pearson, M.)*   10. Recent work on the Iron Age settlement record in Scotland *(Ralston, I.)*   11. Iron Age studies in Ireland: some recent developments *(Raftery, B.)*

Table 8.7 Contents of typical collection of papers on Iron Age Britain and prehistoric pottery (7)

Cunliffe, B. and D Miles, D. *(eds.) (1984)*   ***Aspects of the Iron Age in Central Southern Britain***
1. Landscape and environment of Central southern Britain in the Iron Age *(Robinson, M.)*   2. Iron Age Wessex: continuity and chage *(Cunliffe, C.)*   3. Aspects of Iron Age settlement in Sussex *(Bedwin, O.)*   4. Aspects of Iron Age settlement in the Upper Thames Valley *(Hingley, R. and Miles, D.)*   5. Towards social analysis in archaeology: Celtic society in the Iron Age of the Upper Thames Valley *(Hingley, R.)*   6. Iron Age buildings in the Upper Thames Region *(Allen, T., Miles, D. and Palmer, S.)*   7. Animal husbandary in Wessex and the Thames Valley *(Grant, A.)*   8. Regional patterns in crop production *(Jones, M.)*   9. Iron Age bronze metallurgy in Central Southern England *(Northover, P.)*   10. Iron Age iron metallurgy in Central Southern Britain *(Salter, C. and Ehrenreich, R.)*   11. Pitfalls and possibilities in Iron Age pottery studies-experiences in the Upper Thames Valley *(Lambrick, G.)*   12. The deposition of Iron Age metalwork in watery contexts in Southern Englan *(Fitzpatrick, A.P.)*   13. Tribal boundaries viewed from the perspective of numismatic evidence *(Sellwood, L.)*

Table 8.8 Numbers of papers in typical collections of papers on Iron Age Britain and prehistoric pottery

Titles of typical collections of papers	**Number of papers**
Haselgrove, C. and Moore, T. (*eds.*) (2007) *The Later Iron Age in Britain and Beyond*	31
Haselgrove, C. and Pope, R. (*eds.*) (2007) *The Earlier Iron Age in Britain and the Near Continent*	26
Woodward, A. and Hill, J.D. *(eds.)* (2002) *Prehistoric Britain: the Ceramic Basis*	14
Bevan, B. (*ed.*) (1999) *Northern Exposure: Interpretative Devolution and Iron Ages in Britain*	15
Gwilt, A. and Haselgrove, C. (*eds.*) (1997) *Reconstructing Iron Age Societies: New Approaches to the British Iron Age*	31
Champion, T.C. and Collis, J.R. *(eds.)* (1996) *The Iron Age in Britain and Ireland: Recent Trends*	11
Cunliffe, B. and D Miles, D. *(eds.) (1984) Aspects of the Iron Age in Central Southern Britain*	13
TOTAL	**141**

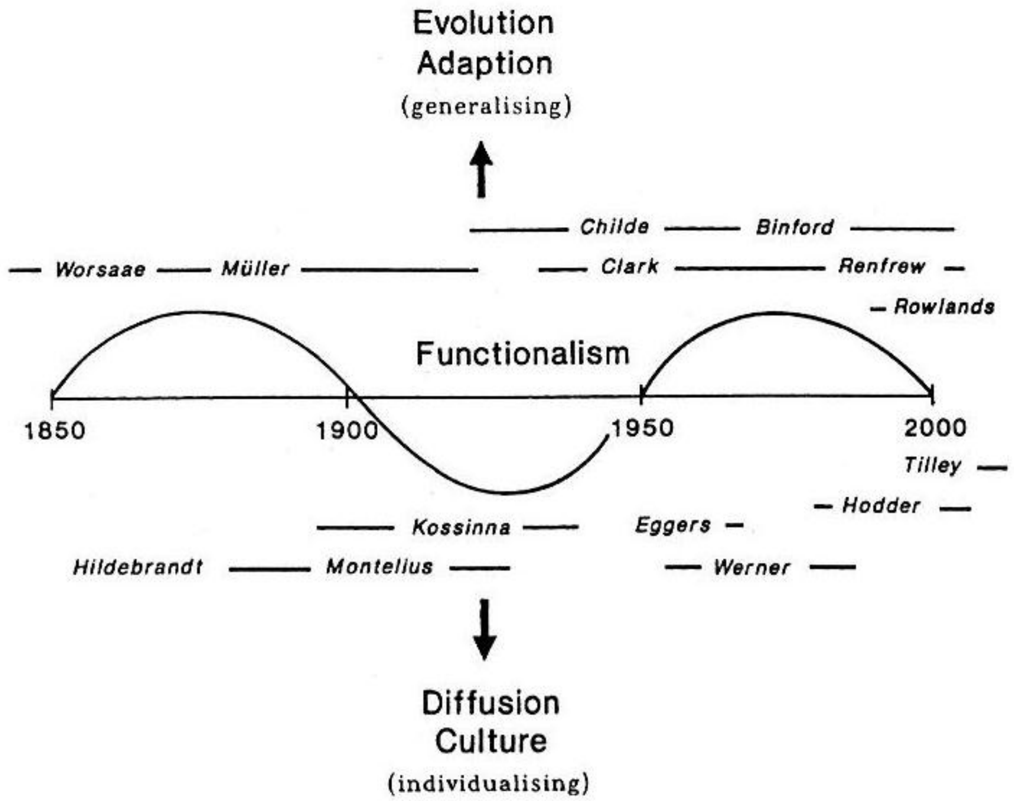


Fig. 2.1 The theoretical cycle oscillating between evolutionary and diffusionist approaches displaying the past and the present interpretations (source: Kristiansen 1998)

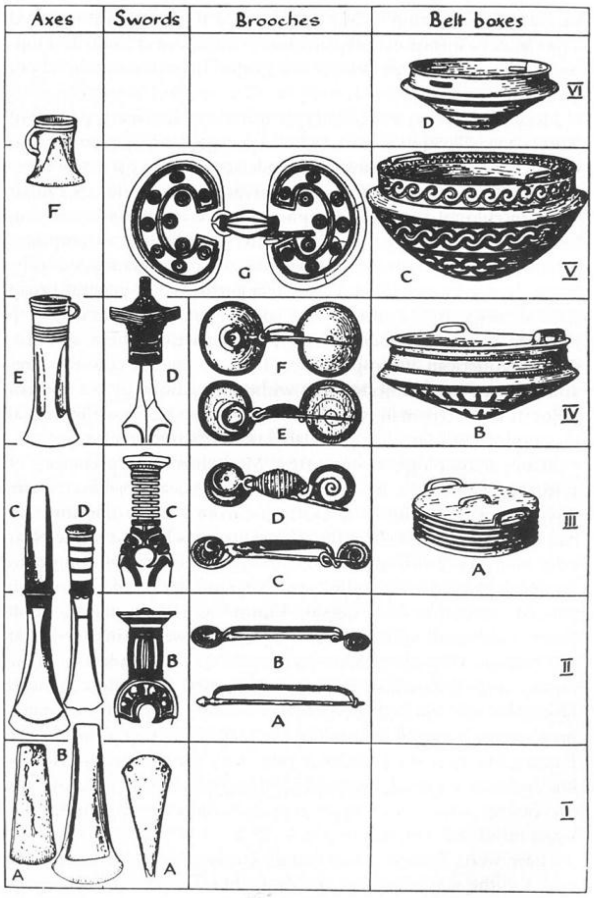


Fig. 3.1 The chronological scheme of European Bronze Age based on bronze artefacts by Montelius in 1881 (source: Trigger 1989)

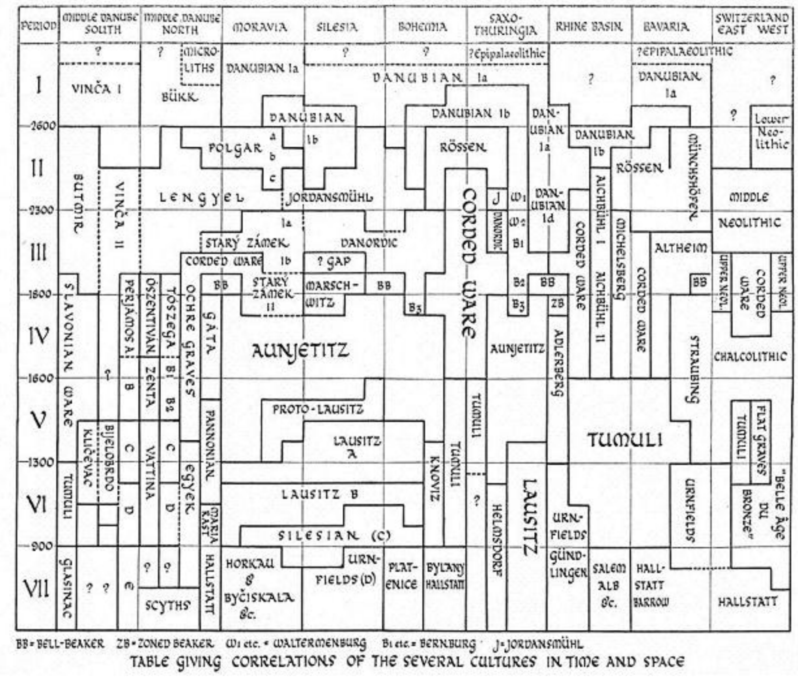


Fig. 3.2 The chronological scheme correlating cultures in central Europe by Childe (1929)

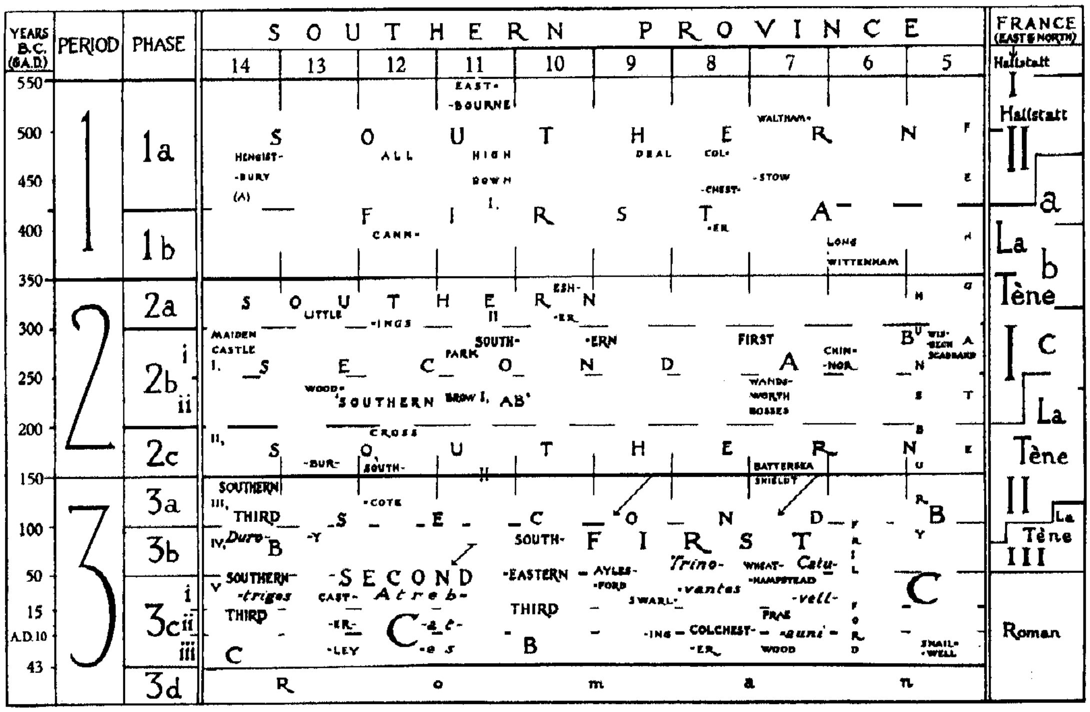


Fig. 3.3 Hawkes's chronological framework (source: Hawkes 1959)

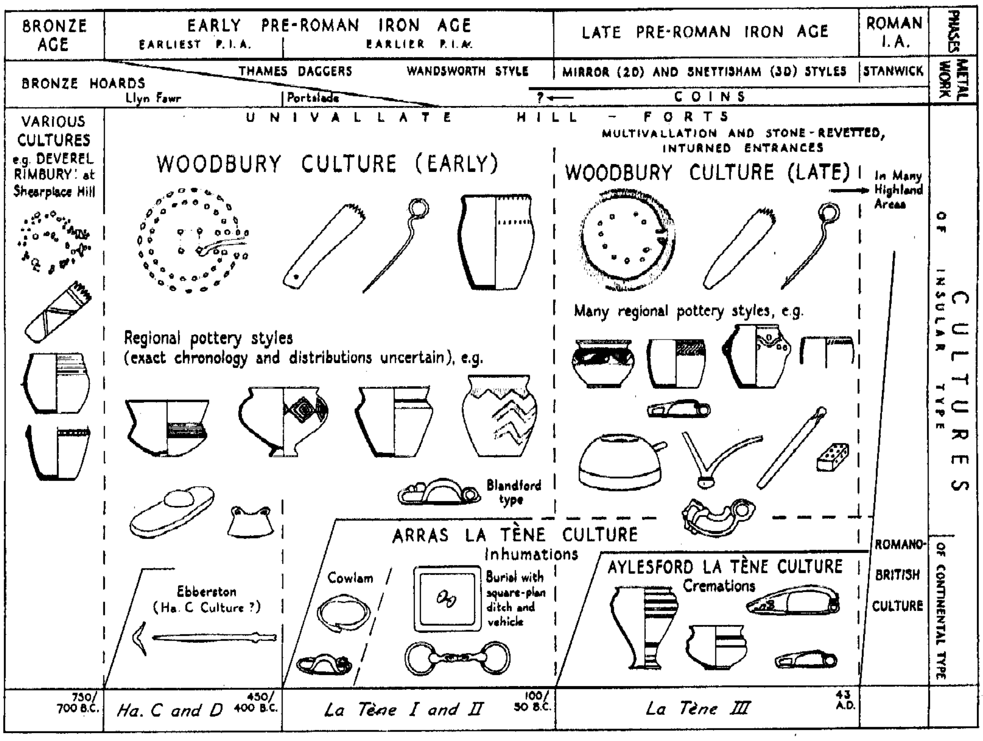


Fig. 3.4 Hodson's chronological framework (source: Hodson 1964)

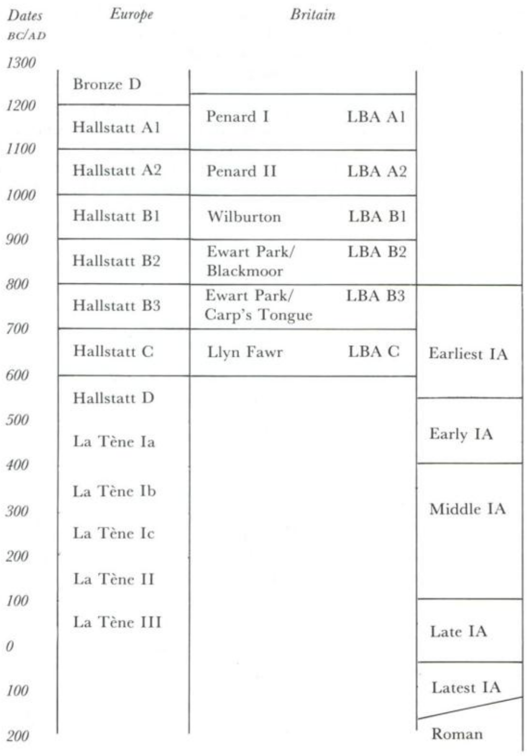


Fig. 3.5 The chronological scheme in Iron Age Britain by Cunliffe (1991)

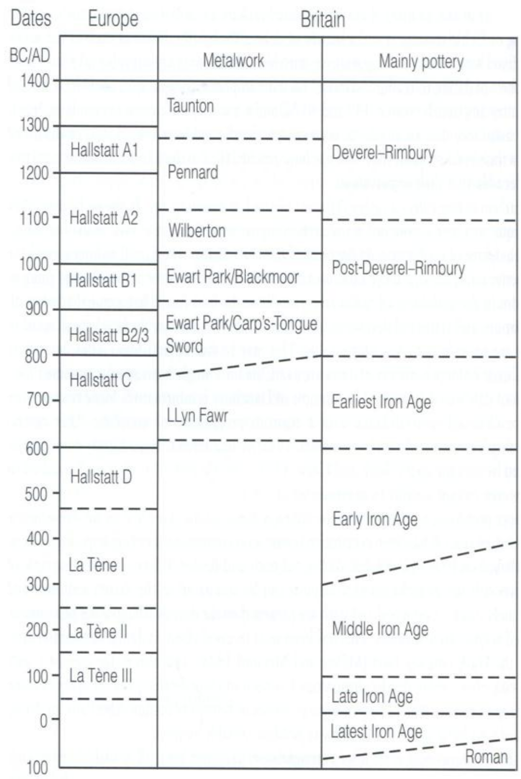


Fig. 3.6 The chronological scheme in Iron Age Britain by Cunliffe (2005)

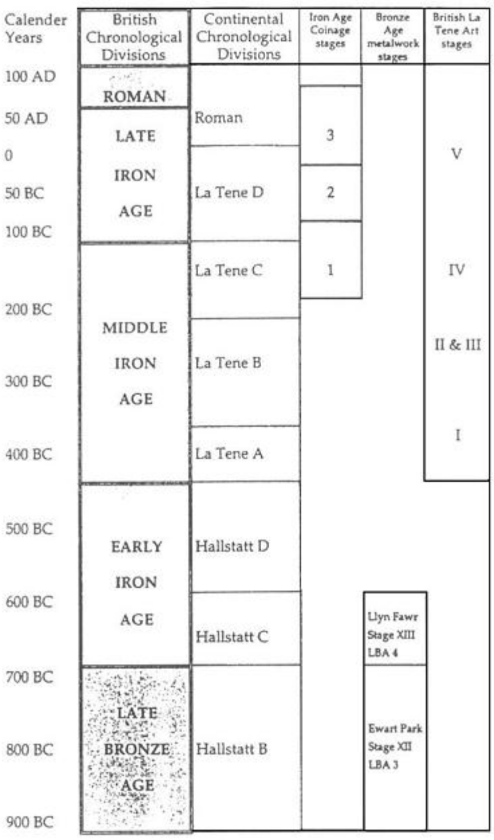


Fig. 3.7 The chronological scheme in Iron Age Britain by Hill (1995b)

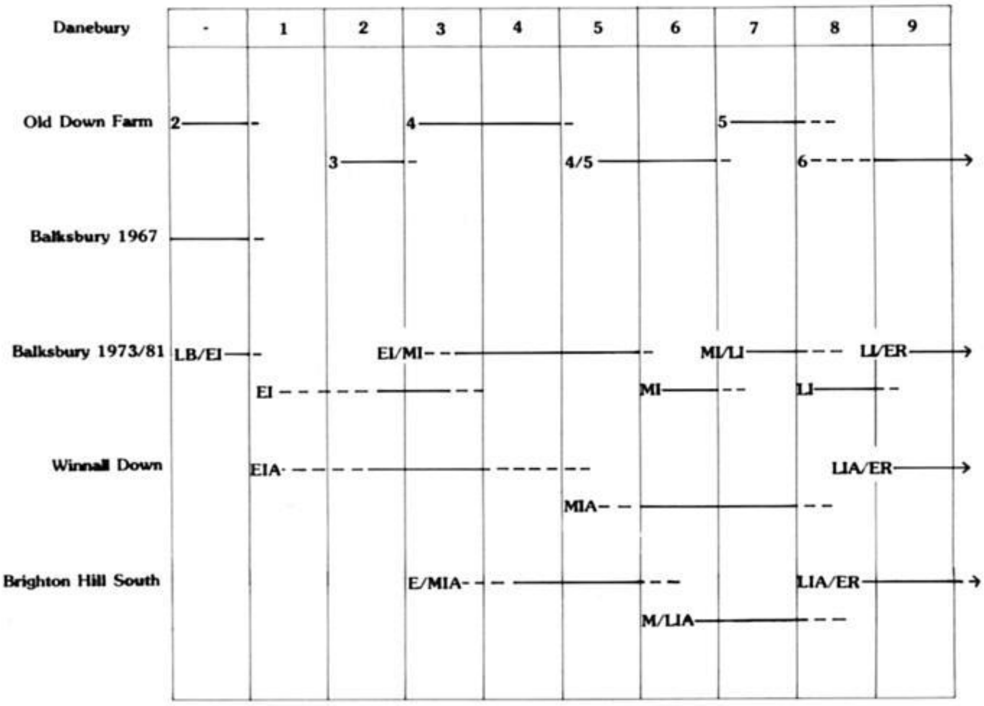


Fig. 3.8 The relation of ceramic schemes between selected Iron Age sites in Hampshire (source: Rees 1995)

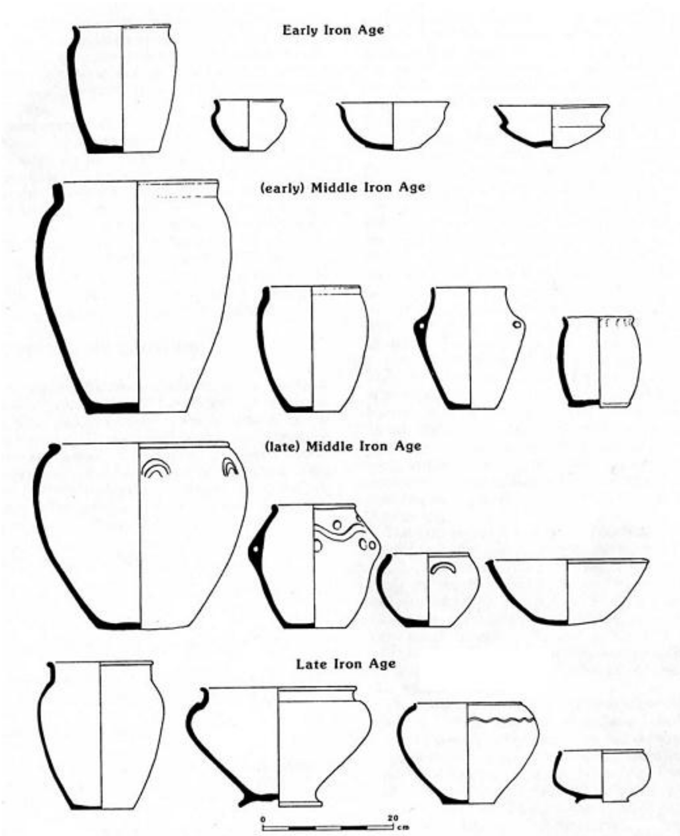


Fig. 3.9 The chronological sequence of Iron Age vessels in Maiden Castle (source: Sharples 1991)

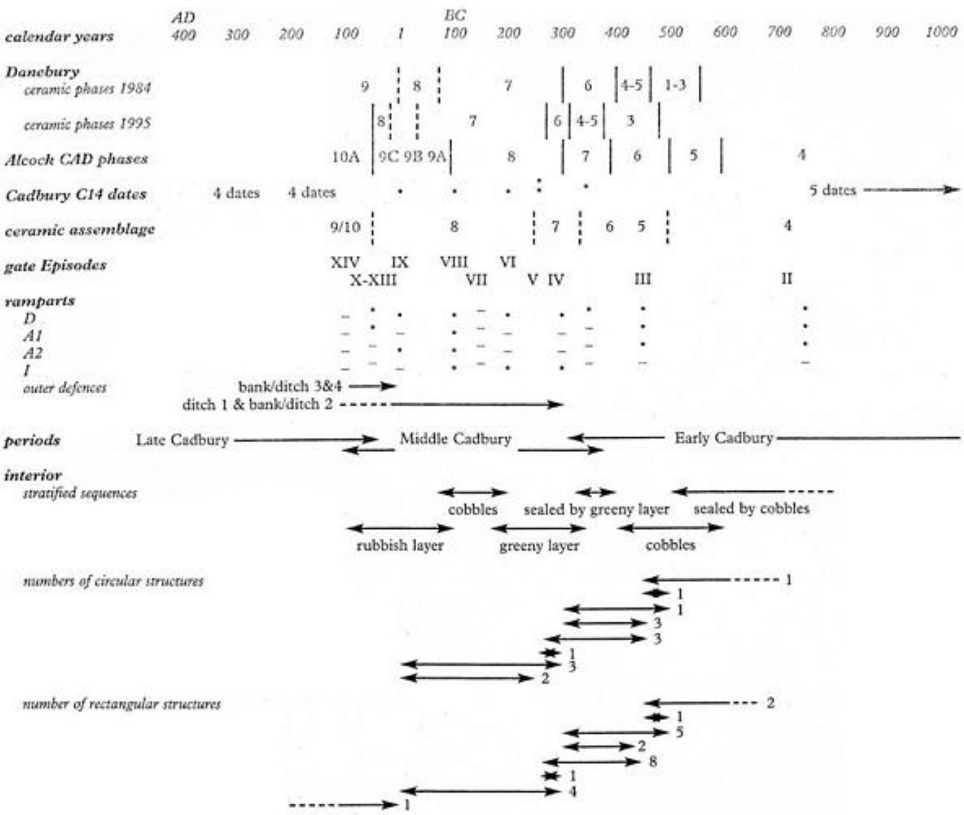


Fig. 3.10 The chronological scheme of Cadbury Castle in the Iron Age (source: Woodward 2000b)

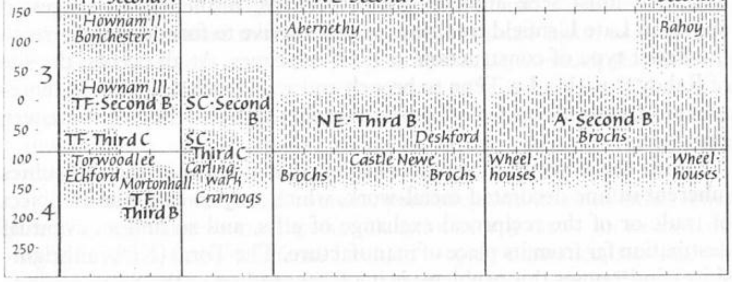


Fig. 3.11 The chronological framework of the Iron Age in northern Britain by Piggott (1966)

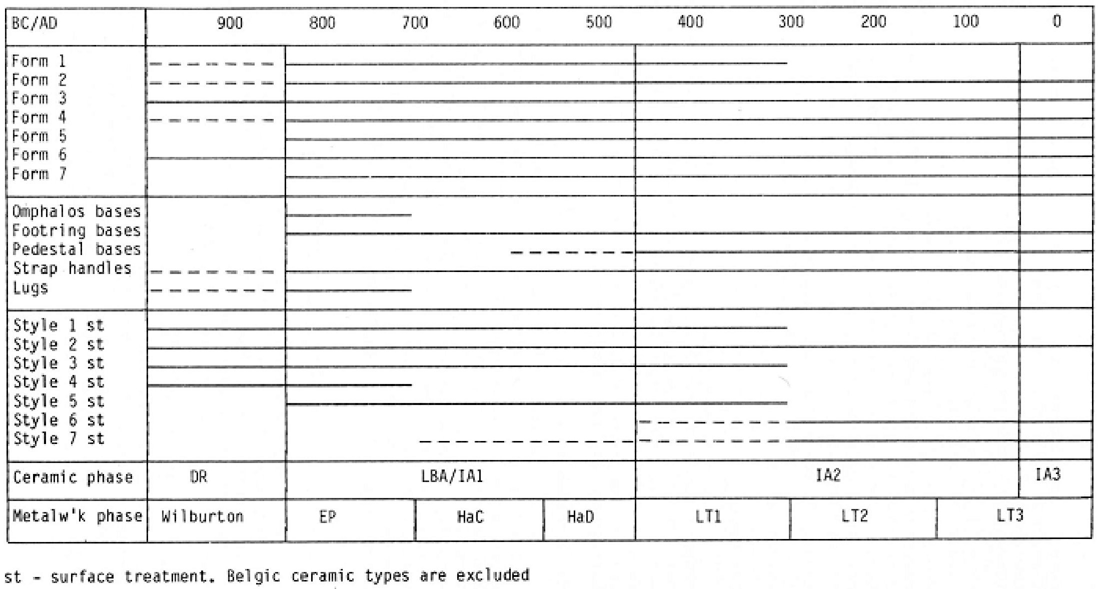


Fig. 3.12 The Iron Age ceramic chronology in the Nene and Great Ouse basins by Knight (1984)

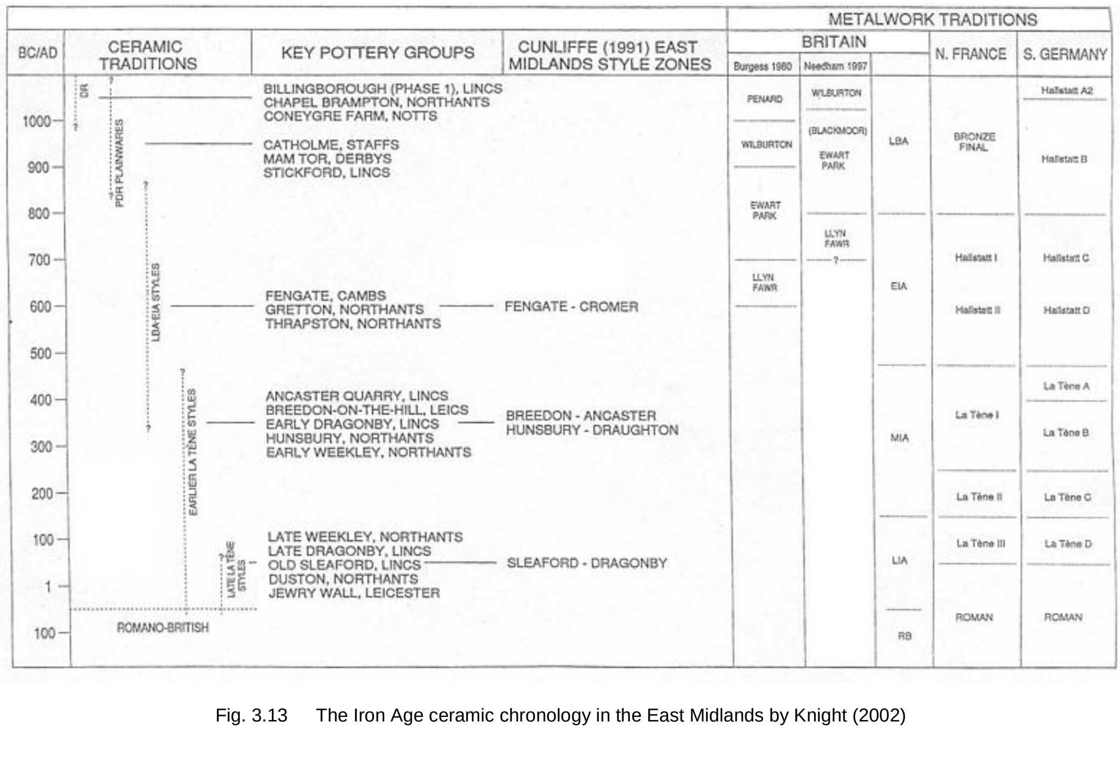


Fig. 3.13 The Iron Age ceramic chronology in the East Midlands by Knight (2002)

Müller-Karpe (1959)
Reinecke[c] (1904–1911)
(For southwestern central Europe)

1000–900 B.C.	Ha[b] A
900–800 B.C.	Ha B
800–700 B.C.	
700–600 B.C.	Ha C
600–450 B.C.	Ha D
450–400 B.C.	LT[d] A
400–250 B.C.	LT B
250–100 B.C.	LT C
100–0 B.C.	LT D

Hodson (1964)
Rowlett (1968)
Viollier (1911)
(For France and adjacent areas)

730–600 B.C.	Ha I
600–530 B.C.	Ha IIa
530–480 B.C.	Ha IIb
480–400 B.C.	LT Ia
400–320 B.C.	LT Ib
320–250 B.C.	LT Ic
250–100 B.C.	LT II
100–50 B.C.	LT III

Godłowski and Woźniak[d]
Kostrzewski (1965)
(For Poland)

650–500 B.C.	Early Ha
500–400 B.C.	Late Ha
400–200 B.C.	Early LT
200–0 B.C.	Late LT

Okulicz (1973)
(For east Baltic area)

550–400 B.C.	Early Iron Age
400–250 B.C.	Middle Iron Age
250–0 B.C.	Late Iron Age

[a] This chronological chart is presented on the basis of recent modifications.
[b] Ha = Hallstatt; LT = La Tène.
[c] The Hallstatt A and B phases of Reinecke's chronology fall into the Late Bronze Age in areas north of the Alps. This chronology is not applicable to north–central and northern Europe.
[d] Personal communication.

Fig. 3.14 The European Iron Age chronologies (source: Milisauskas 1978)

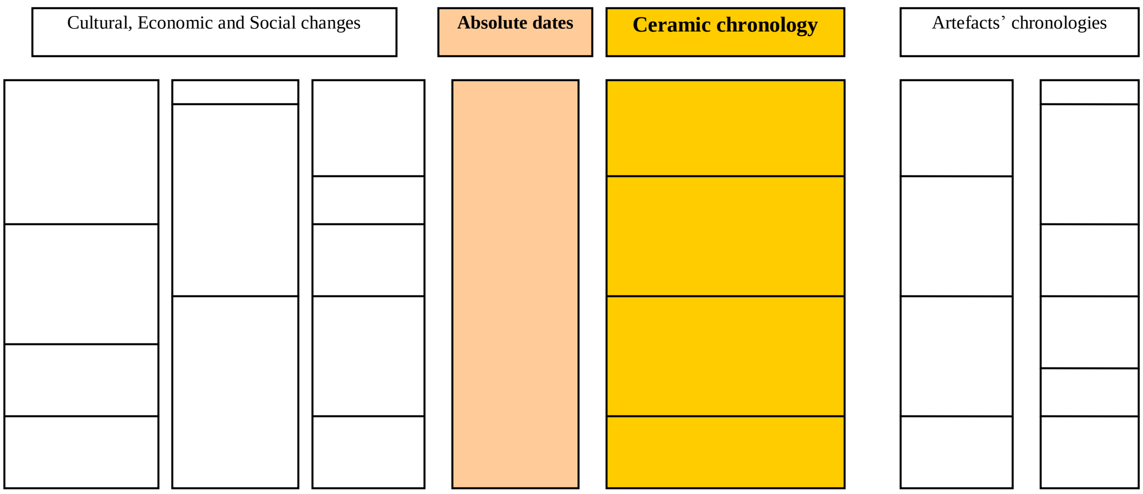


Fig. 3.15 The conceptual scheme on chronological understanding of the Iron Age based on ceramic chronologies and absolute dates

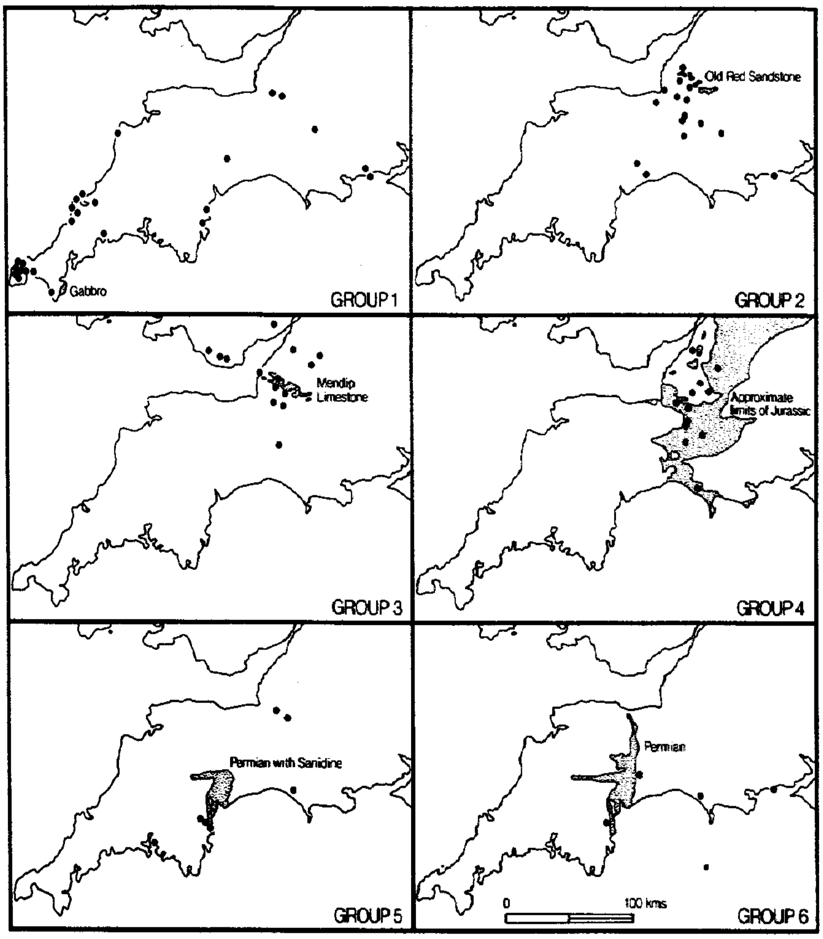


Fig. 3.16 The distribution of Glastonbury ware based on sources of mineral inclusions (source: Peacock 1968)

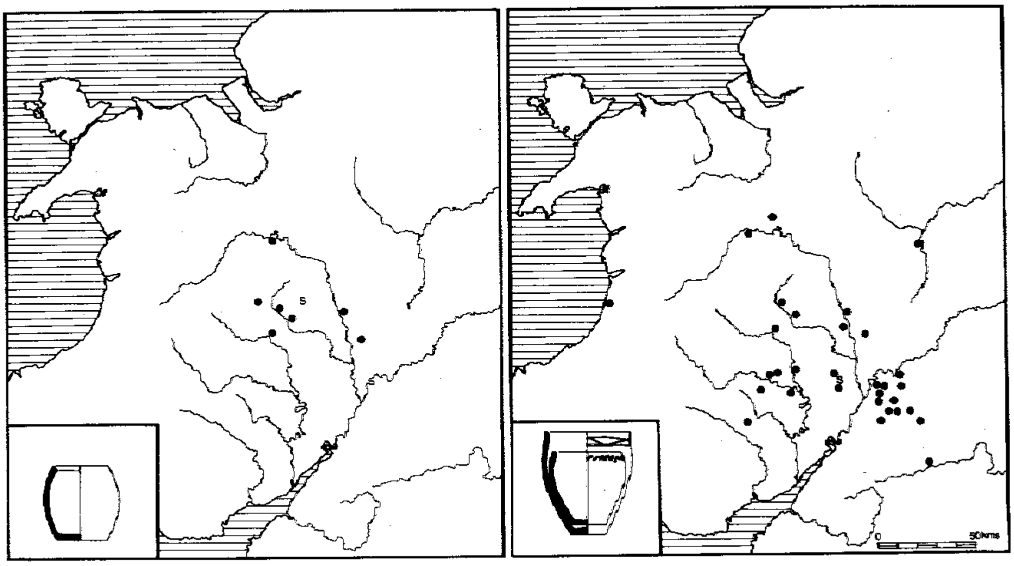


Fig. 3.17 Specialist pottery production in western Britain (source: Morris 1981)

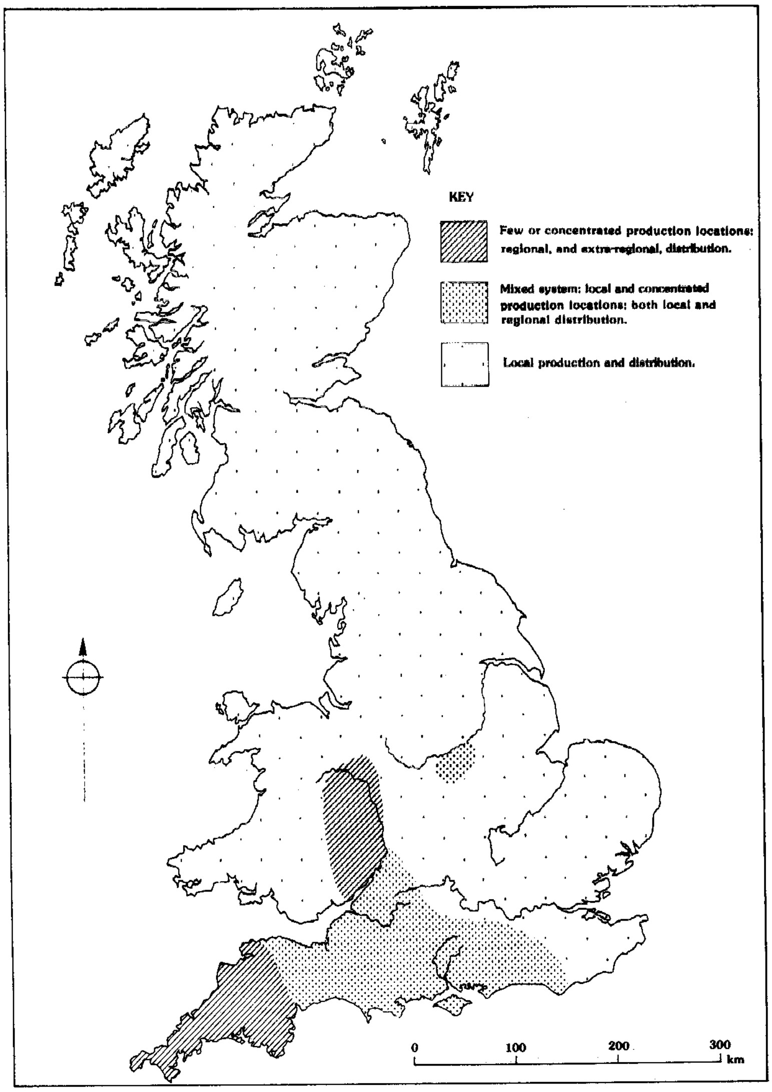


Fig. 3.18 Pottery production systems in Britain (source: Morris 1994)

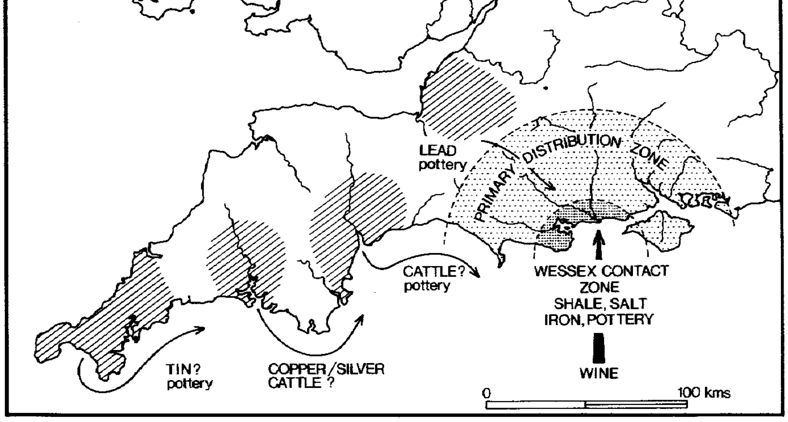


Fig. 3.19 The model for trade with Hengistbury Head (source: Cunliffe 1987)

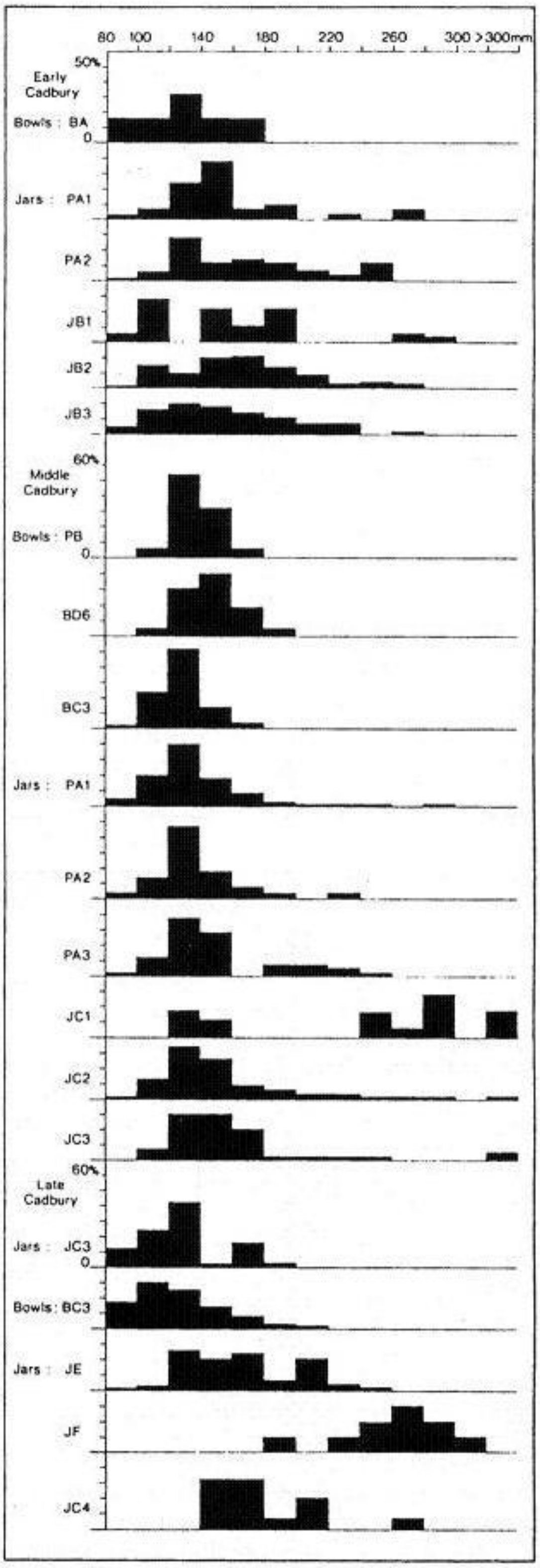


Fig. 3.20 Size analyses of ceramics from Cadbury Castle in Somerset by Woodward (1997)

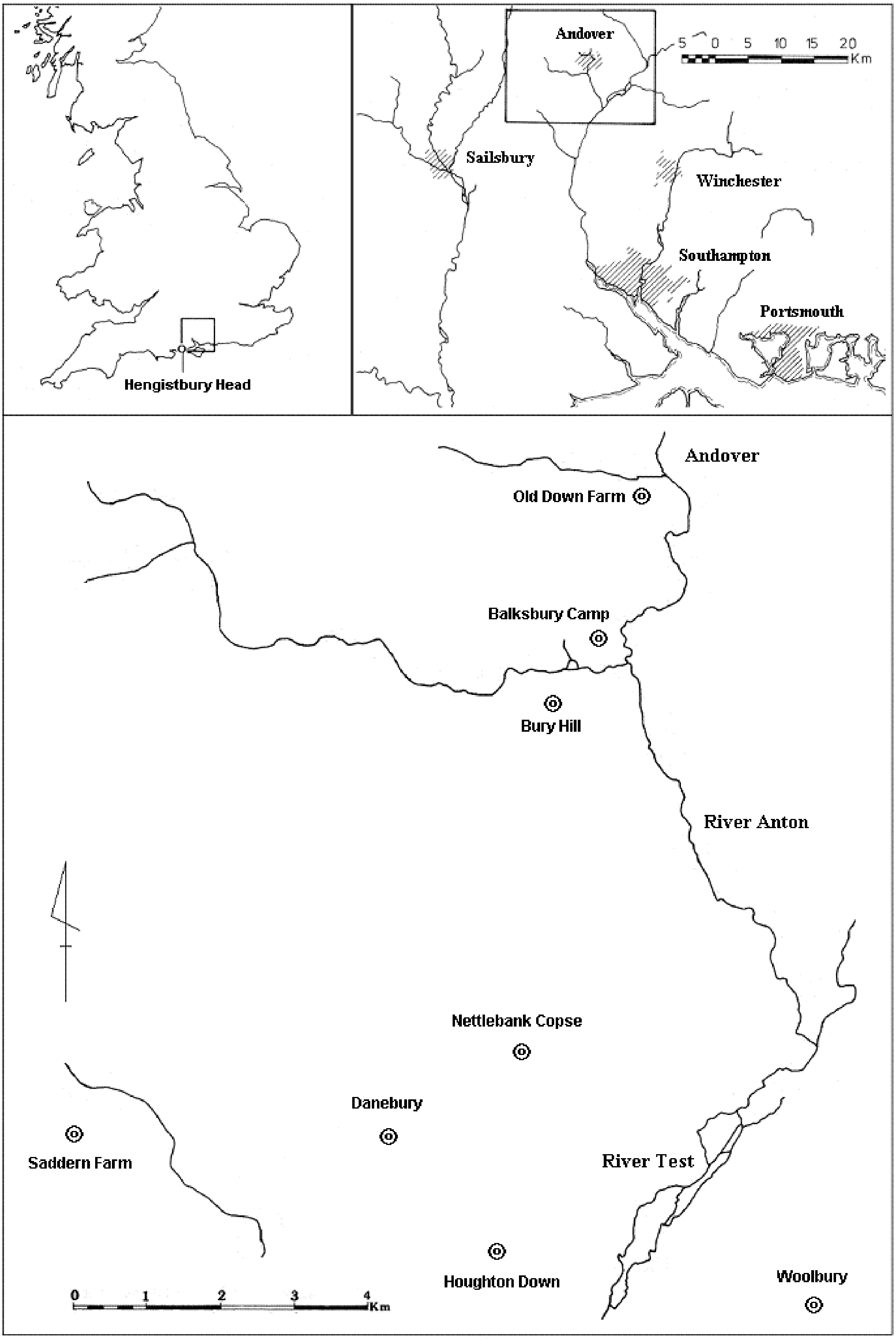


Fig. 3.21 The location map of Iron Age sites in central-southern Britain for the study

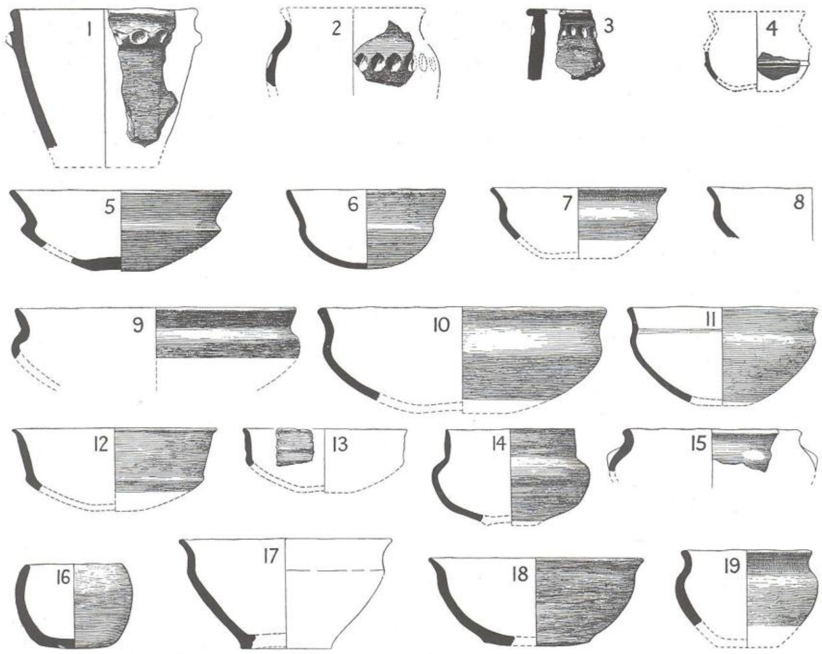


Fig. 4.1 “Pottery with finger-tip” (1~4) and “Haematite-coated bowls” (5~19) at Maiden Castle, Dorset (source: Wheeler 1943)

CROFT AMBREY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20 OTHERS	TOTAL
A	O																					0
	U																					0
	L	1																				1
	T		1		1																1	3
B	O													1								1
	U										1										1	2
	L																					0
	T	1	3					1			2										1	8
C	O				1				1	1	3	1			1							8
	U							1			1											2
	L	1																				1
	T	14	9	1		2		1		1	1	1									1	31
D	O					1		1		5	9										1	17
	U	1				1					8						2			1	2	15
	L		1					1							2					1		5
	T	2	2	1				2			2						1	1		1	1	13
E	O										10											10
	U										2											2
	L																					0
	T																				1	1
F	O										6											6
	U										1											1
	L																					0
	T																				1	1
G	O					1																1
	U																					0
	L																					0
	T						1															1
H	O							2		1	23	1										27
	U						1															1
	L										1											1
	T	1	1			1											1	1			1	6
I	O										6							1			1	8
	U										1							3				4
	L																	1				1
	T																2	2				4
J	O										13	1			3							17
	U																1					1
	L																					0
	T					1			1								1	1	2			6
K	O										5										1	6
	U																					0
	L																					0
	T																					0
OTHERS			3			3	2				3						3		1		2	17
TOTALS		21	20	2	2	10	4	9	2	8	98	4	0	1	6	0	11	10	3	3	15	

Fig. 4.2 Analysis of rim forms and decoration of Iron Age pottery at Croft Ambrey (source: Stanford 1974)

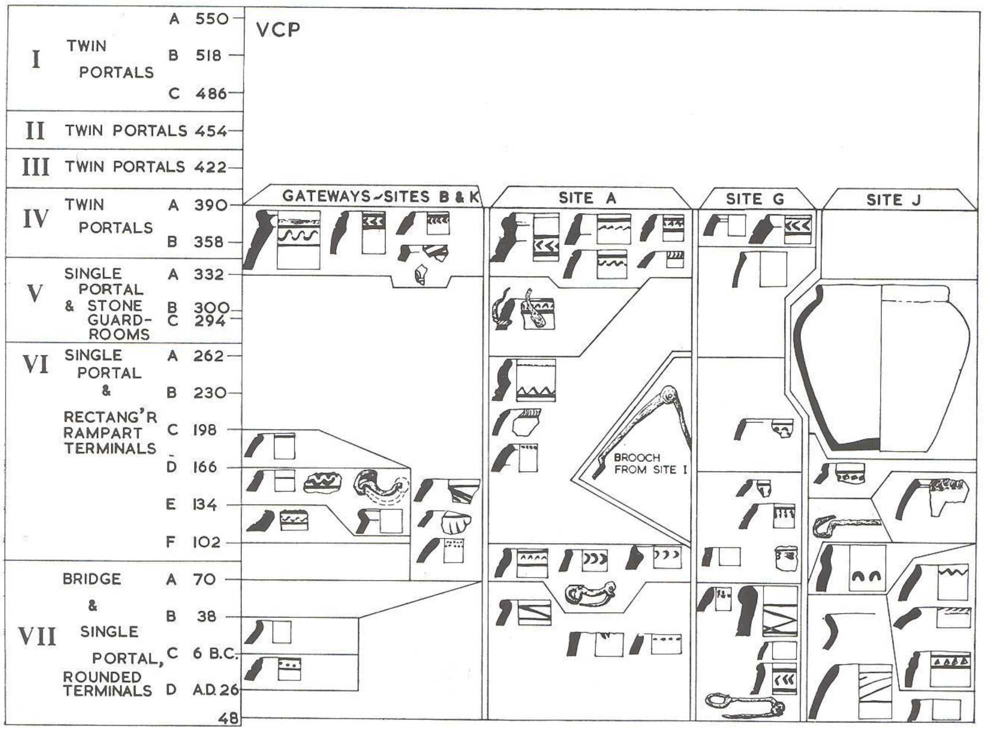


Fig. 4.3 Correlation of finds and gateway phases at Croft Ambrey (source: Stanford 1974)

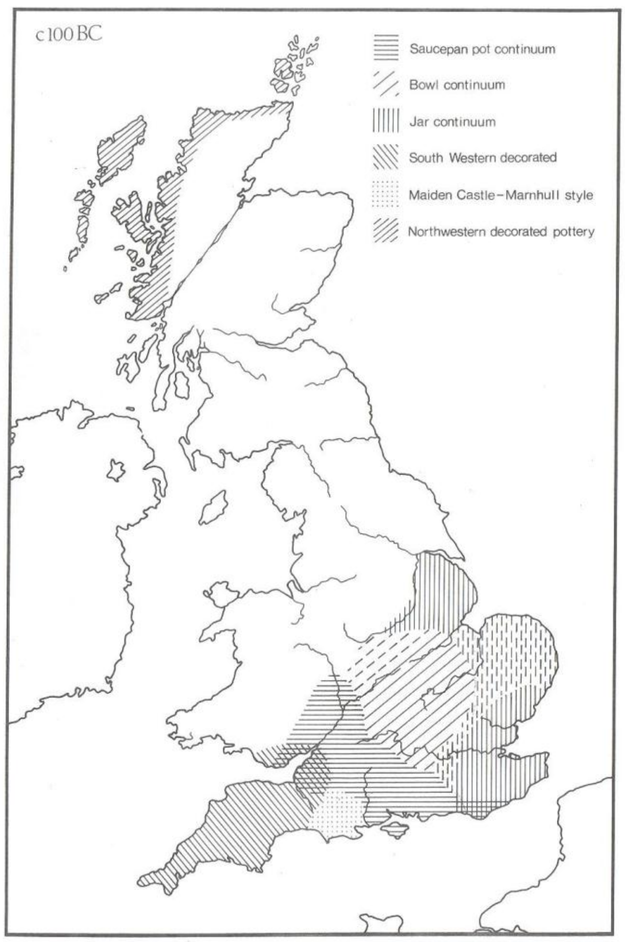


Fig. 4.4 Distribution of major groupings from the 2nd to 1st centuries BC (source: Cunliffe 1991)

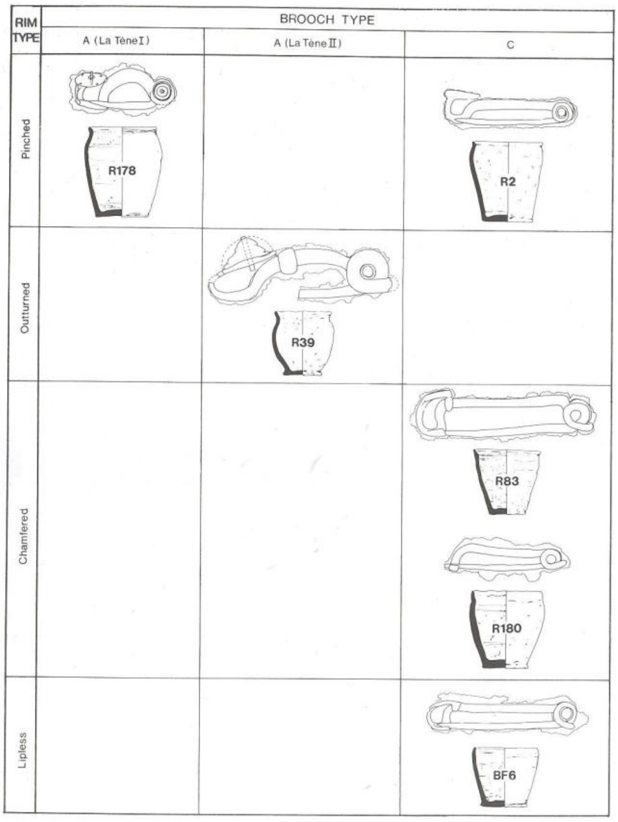


Fig. 4.5 The relationship between the pottery rim and brooch types at the Iron Age cemeteries in East Yorkshire (1) (source: Rigby 1991)

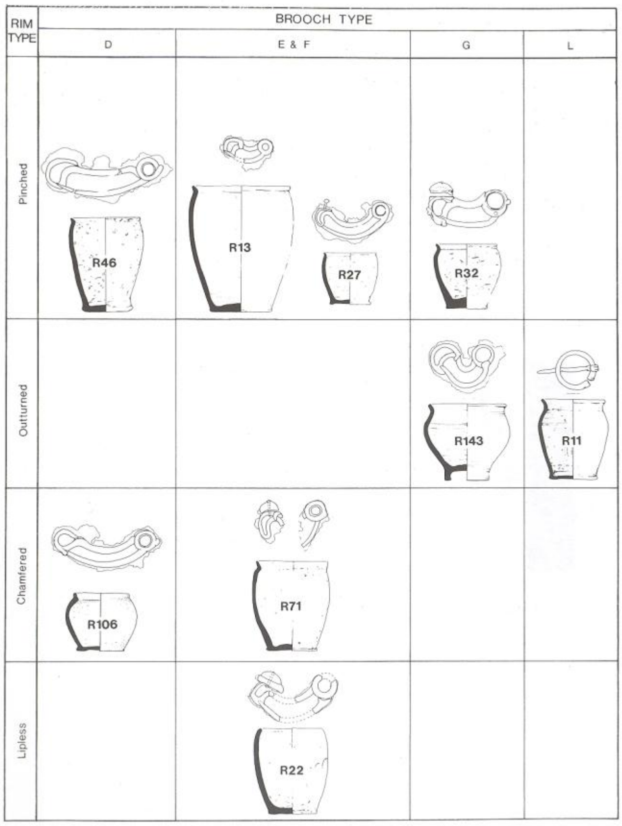


Fig. 4.6 The relationship between the pottery rim and brooch types at the Iron Age cemeteries in East Yorkshire (2) (source: Rigby 1991)

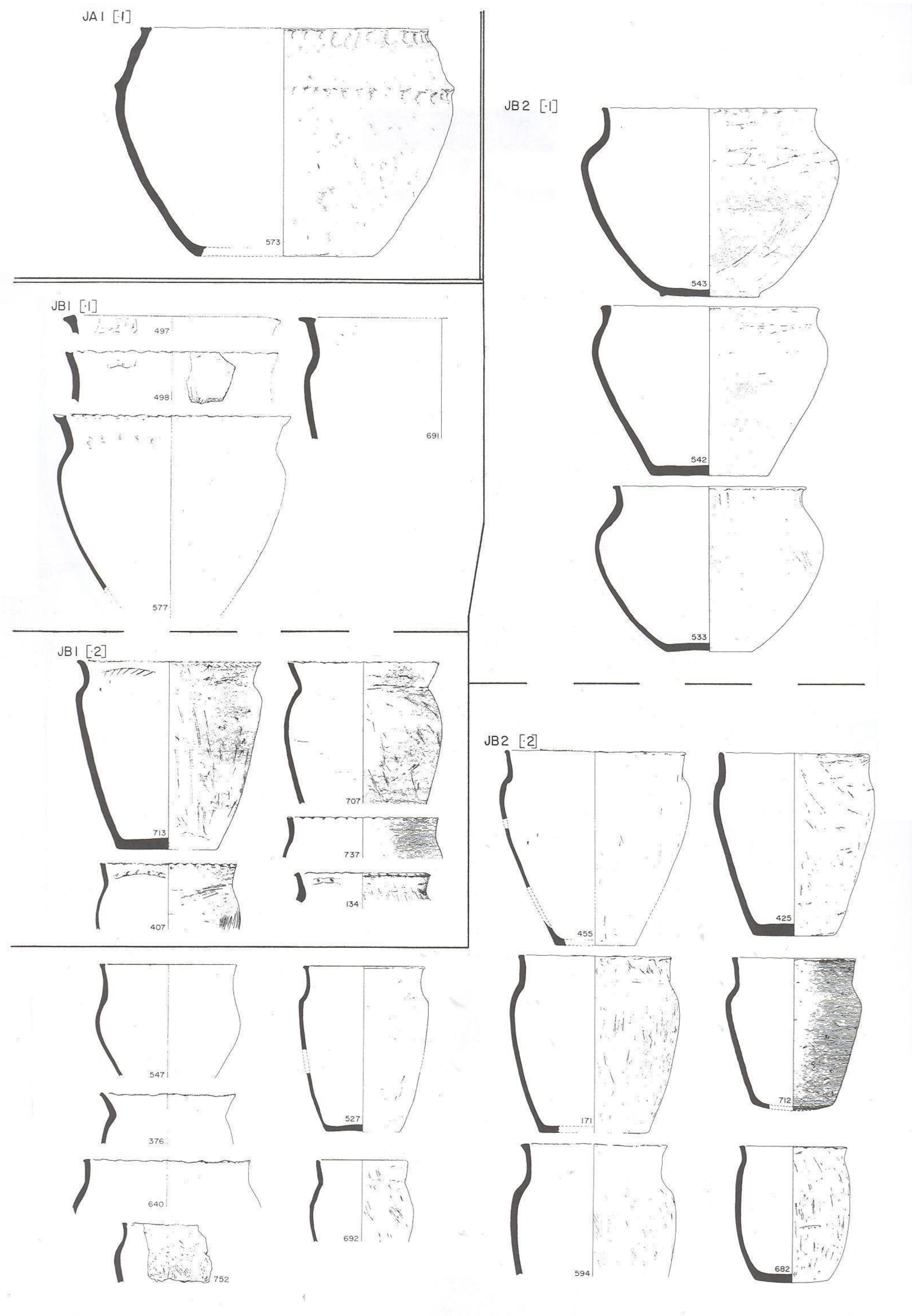


Fig. 4.7 Classification of Jar pottery by Cunliffe (1) (source: Cunliffe 1984b)

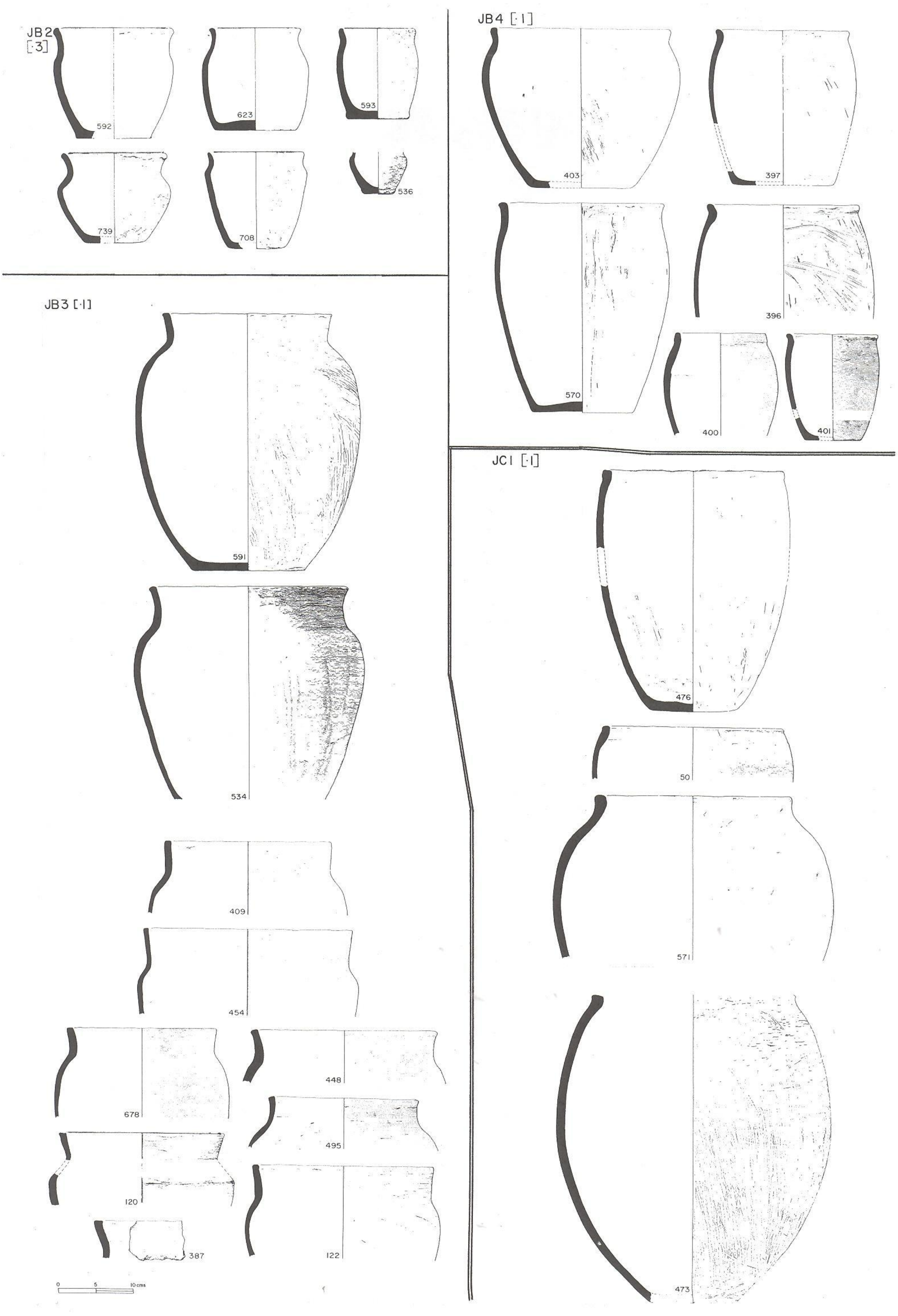


Fig. 4.8 Classification of Jar pottery by Cunliffe (2) (source: Cunliffe 1984b)

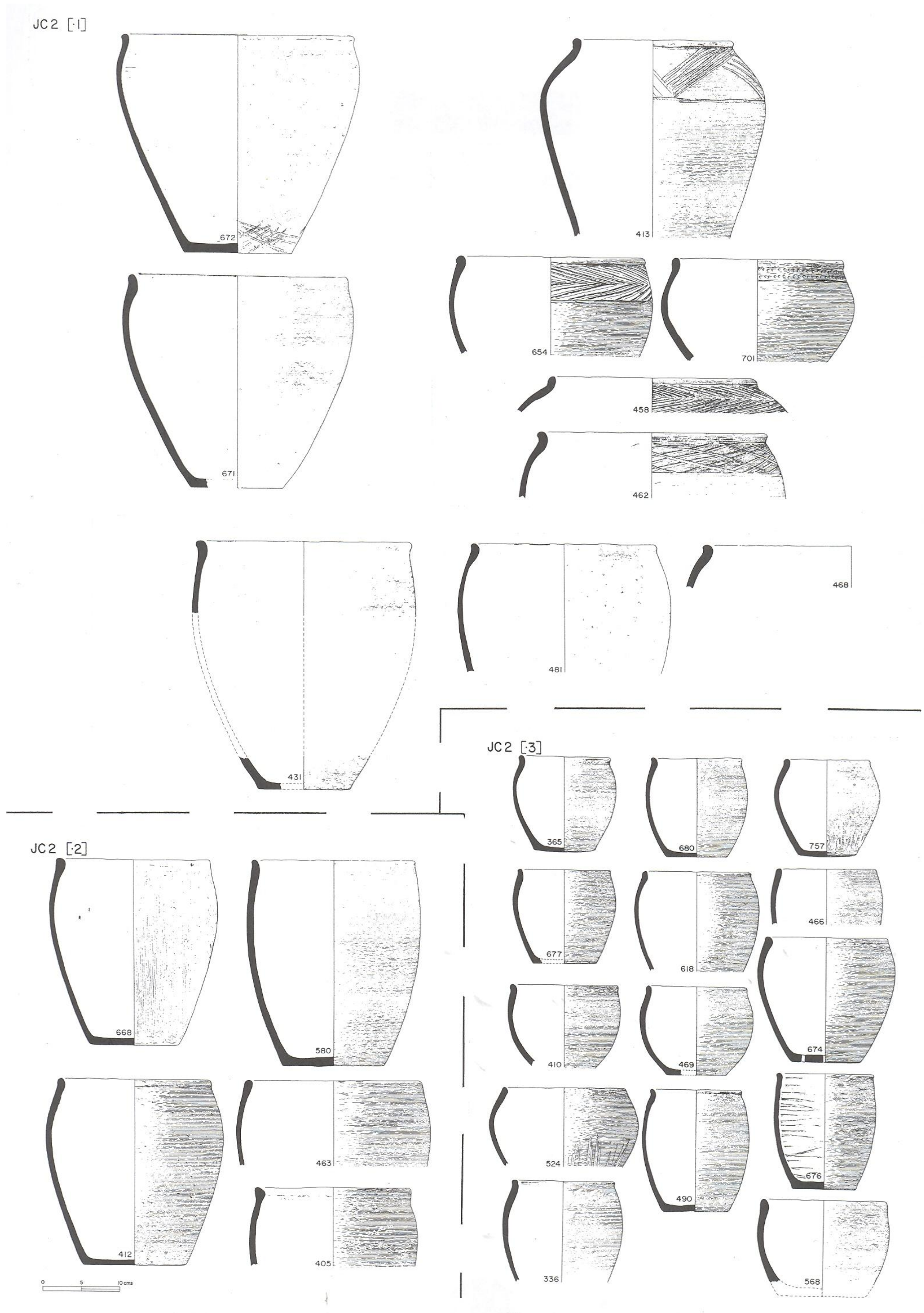


Fig. 4.9 Classification of Jar pottery by Cunliffe (3) (source: Cunliffe 1984b)

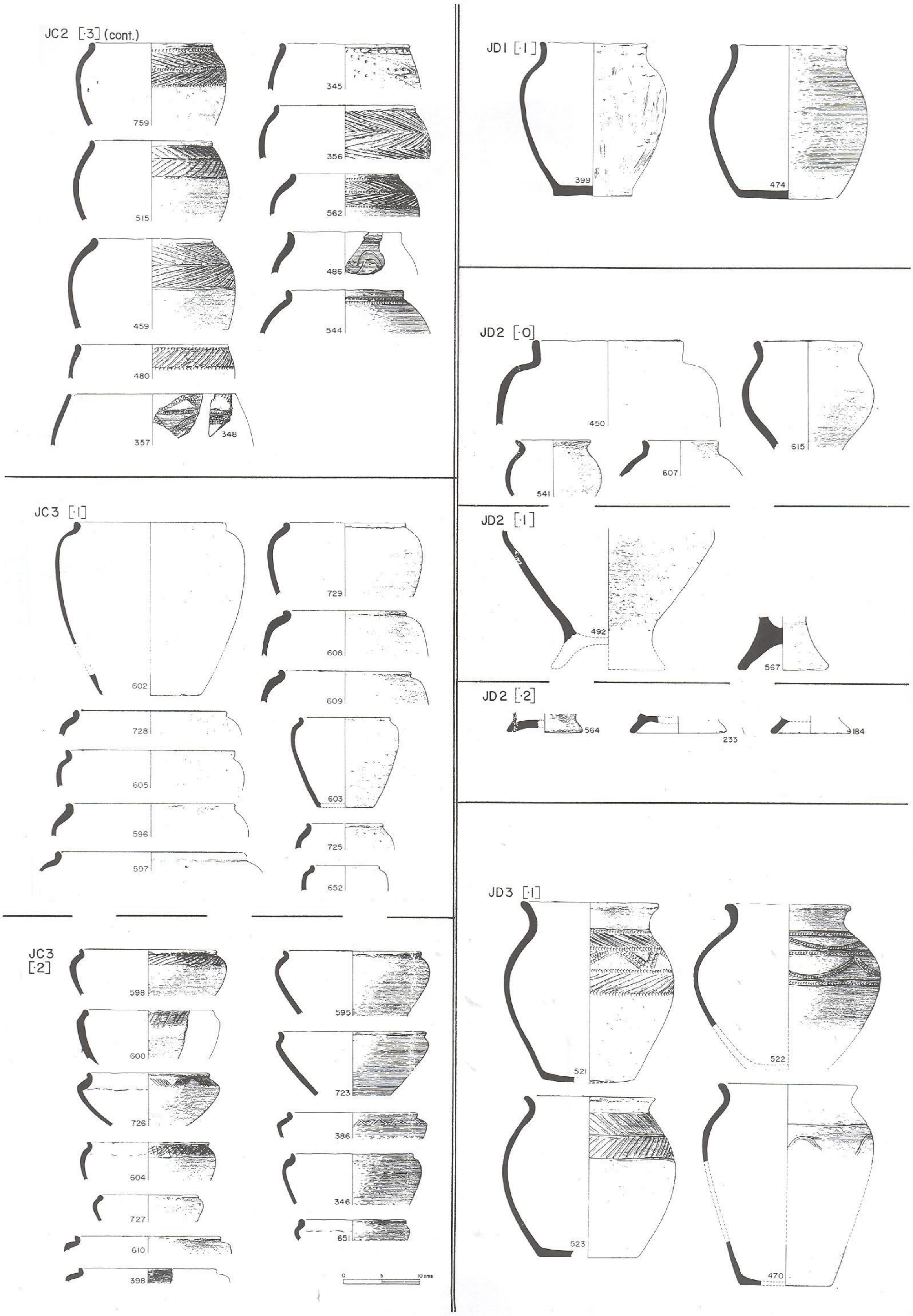


Fig. 4.10 Classification of Jar pottery by Cunliffe (4) (source: Cunliffe 1984b)

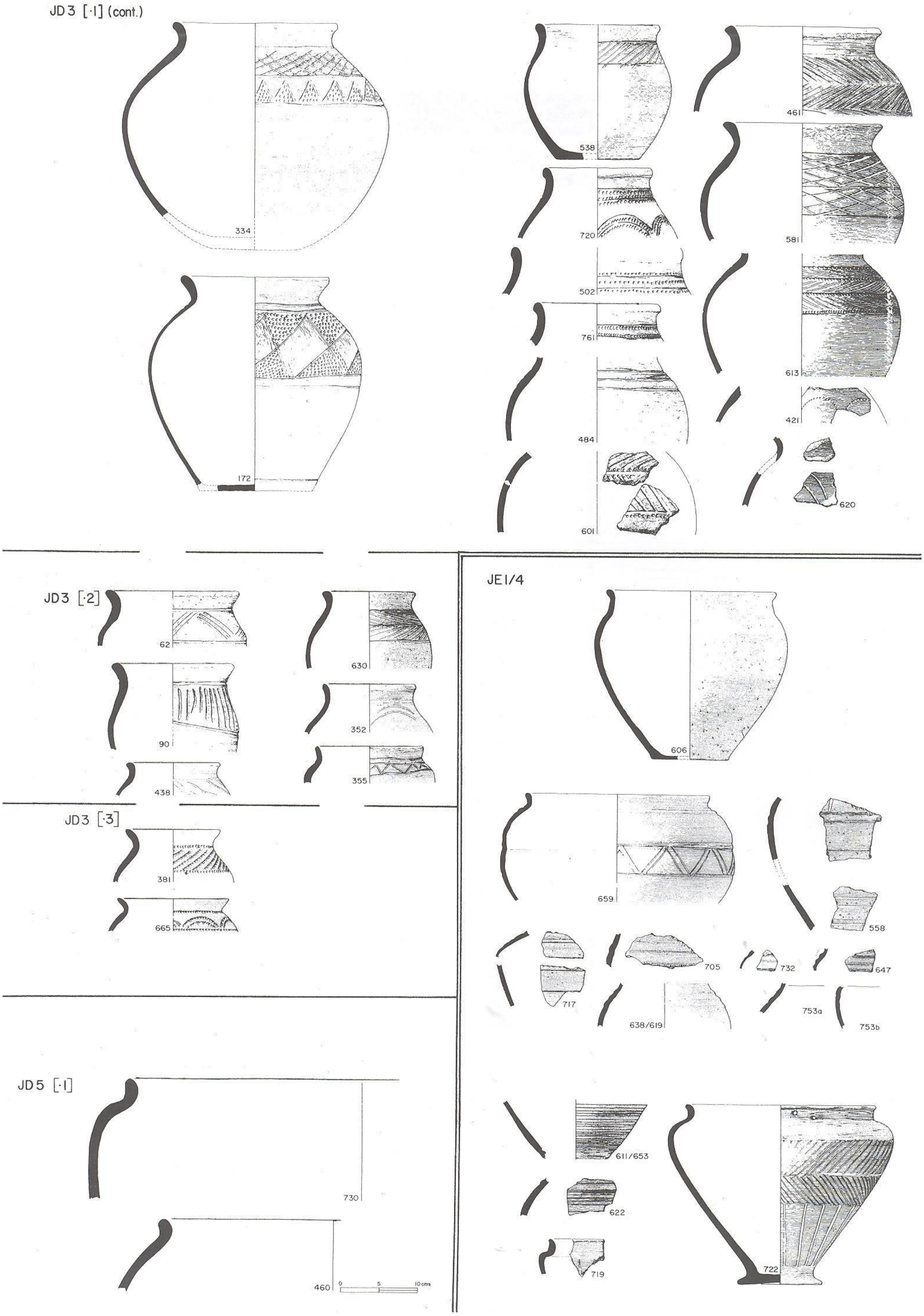


Fig. 4.11 Classification of Jar pottery by Cunliffe (5) (source: Cunliffe 1984b)

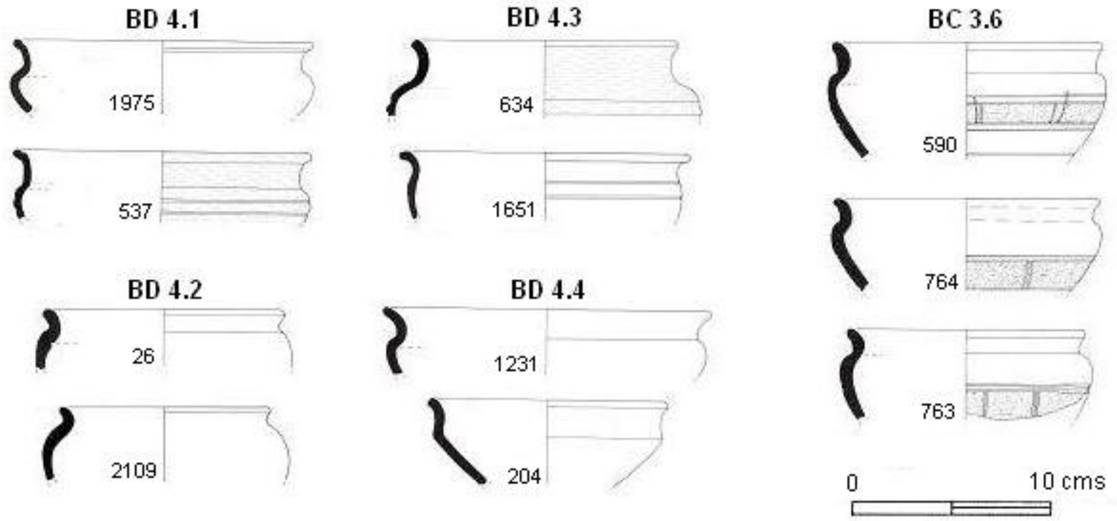


Figure 4.12 Examples of BD 4 and BC 3.6 in the Hengistbury Head report (Cunliffe 1987)

Figure 4.13 Examples of BD 4.2 in the Hengistbury Head report (Cunliffe 1987)

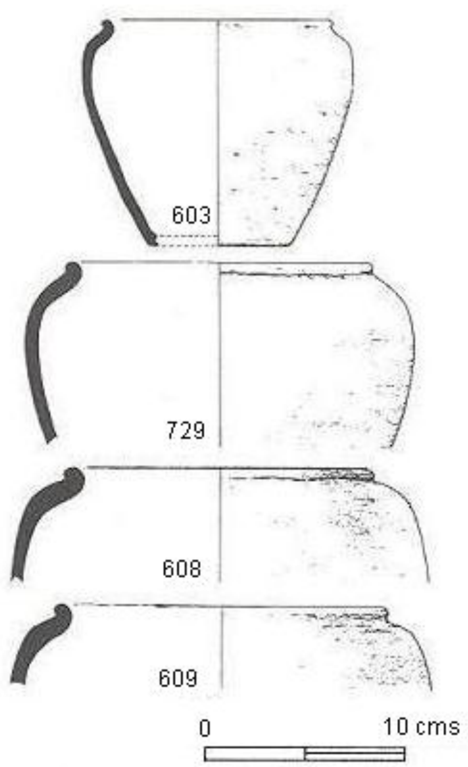


Figure 4.14 Examples of JC 3.1 of Danebury (Cunliffe 1984b)

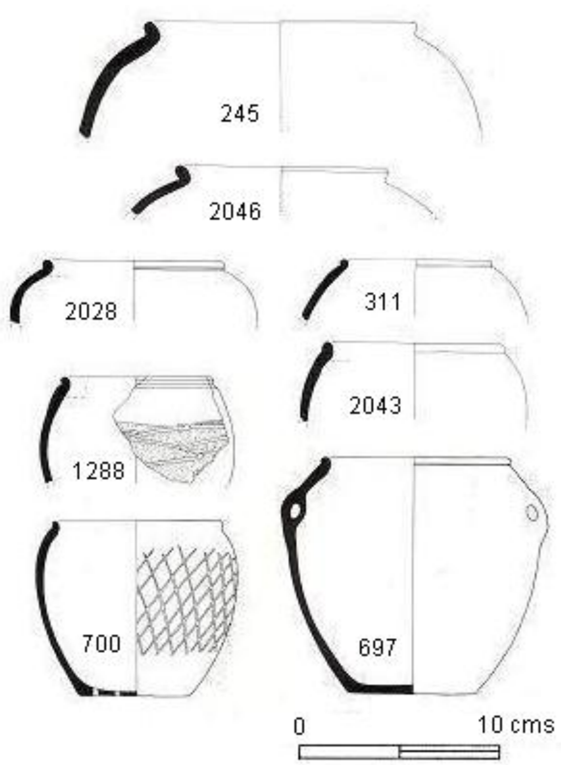


Figure 4.15 Examples of JC 3.1 of Hengistbury Head (Cunliffe 1987)

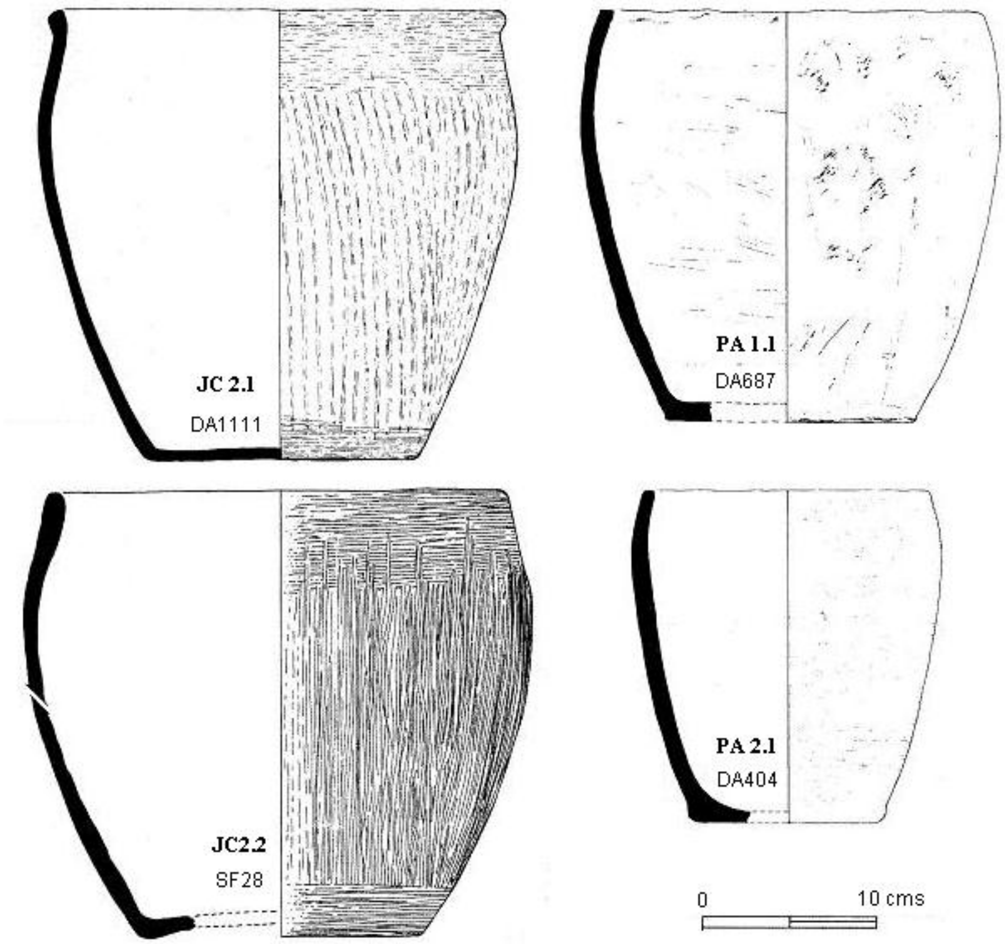


Figure 4.16 Examples of *Jars* (left) and *Saucepan pots* (right) (Cunliffe 2000a)

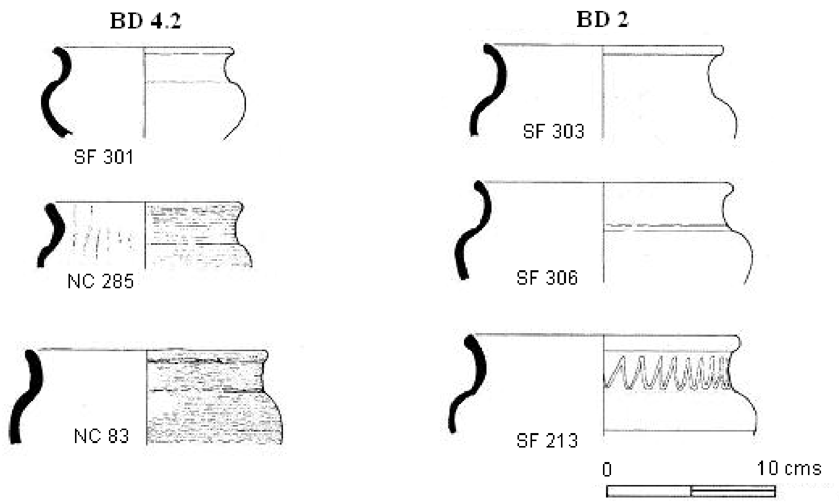


Figure 4.17 Examples of BD4.2 (left) and BD 2 (right) (Cunliffe 2000a)

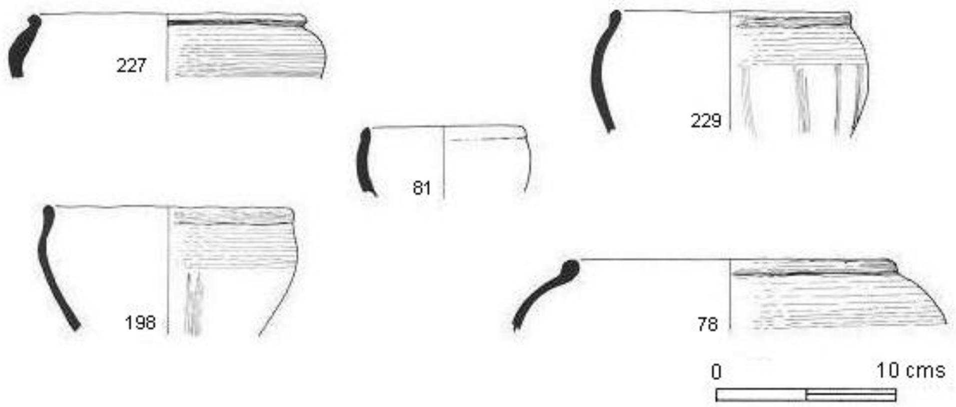


Figure 4.18 Examples of BC 3.3 in the Suddern Farm report (Brown 2000b)

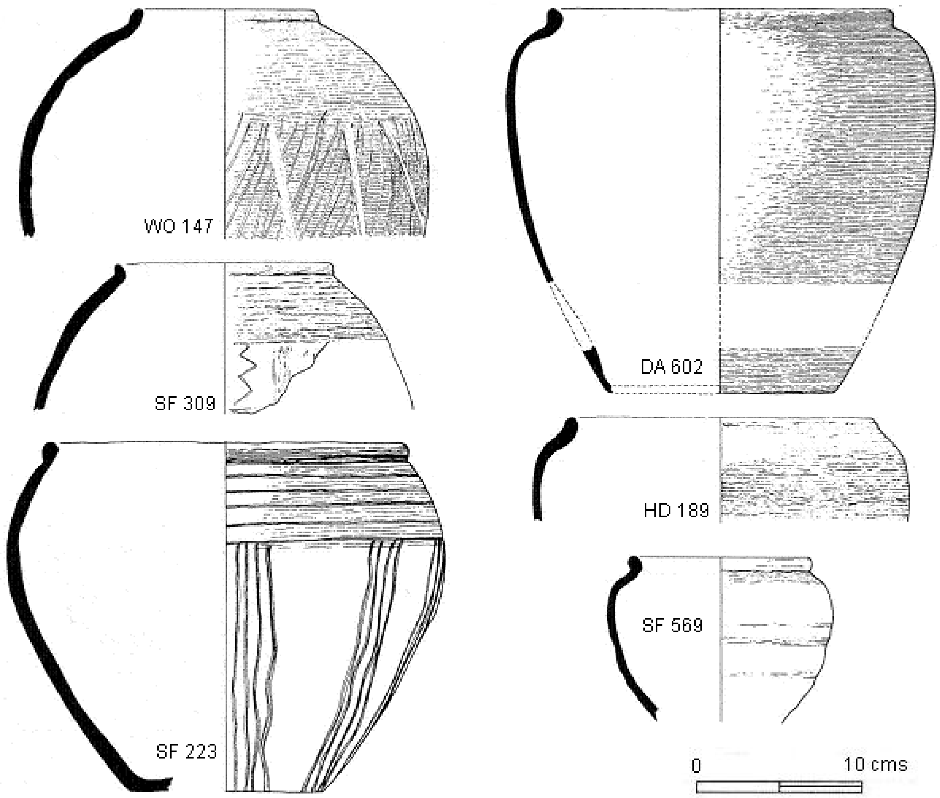


Figure 4.19 Examples of JC 3.1 in the Danebury Environs report (Brown 2000a)

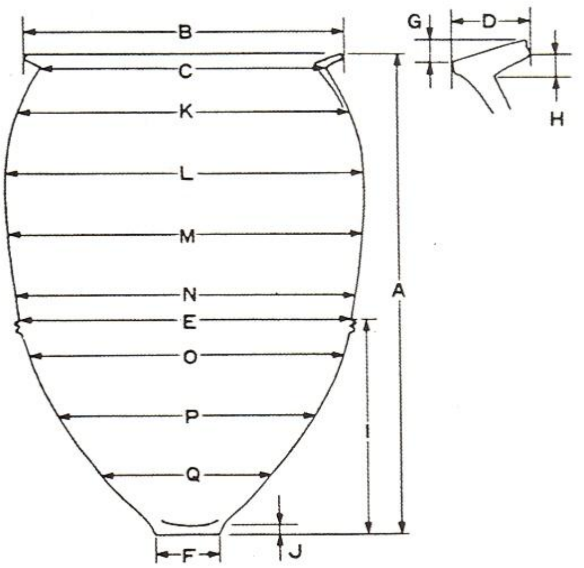


Fig. 4.20 The points for measuring pottery (source: Nakazono 1991)

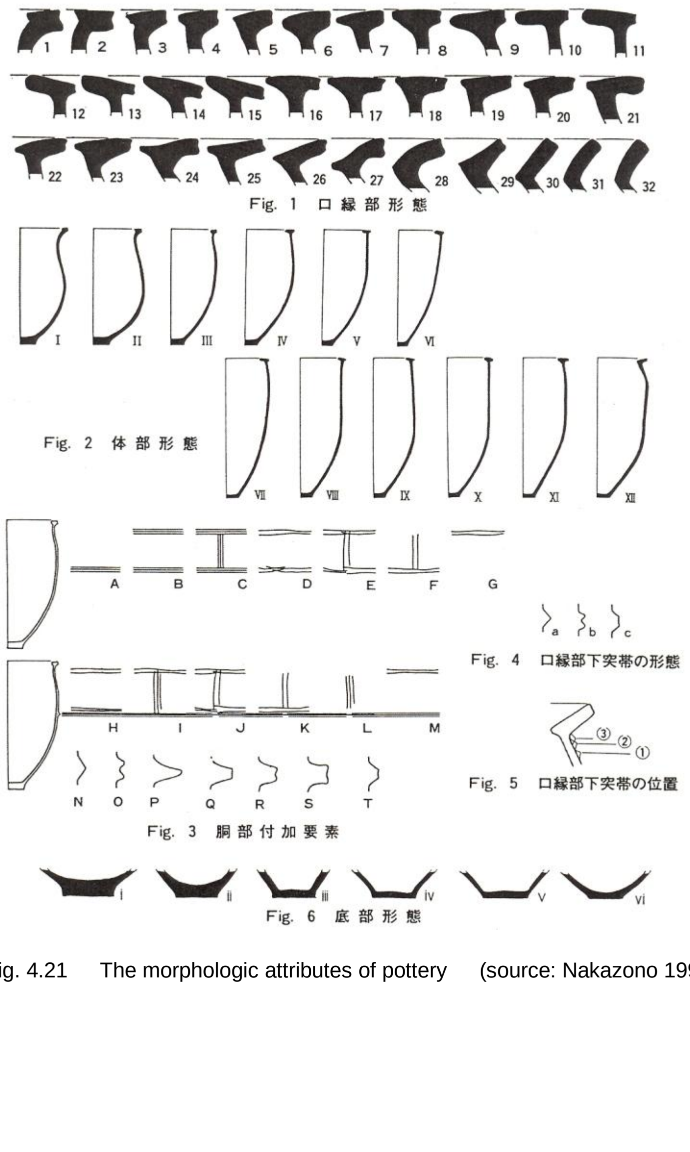


Fig. 4.21 The morphologic attributes of pottery (source: Nakazono 1991)

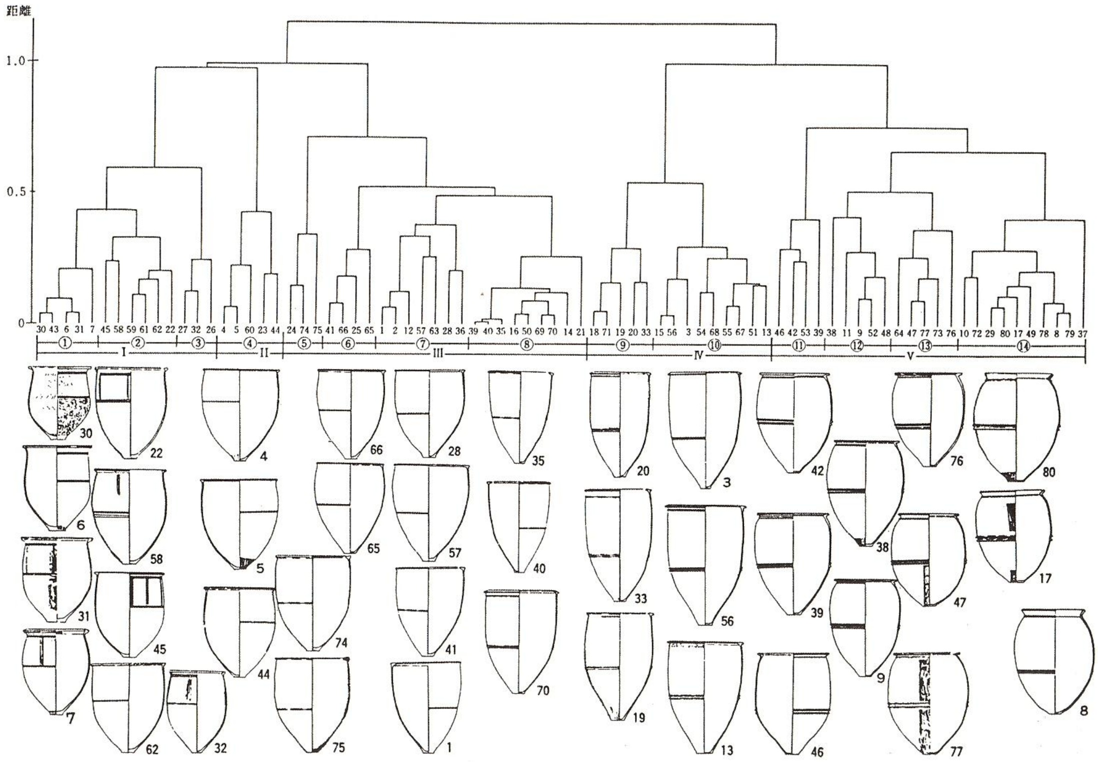


Fig. 4.22 Cluster classification of pottery (source: Nakazono 1991)

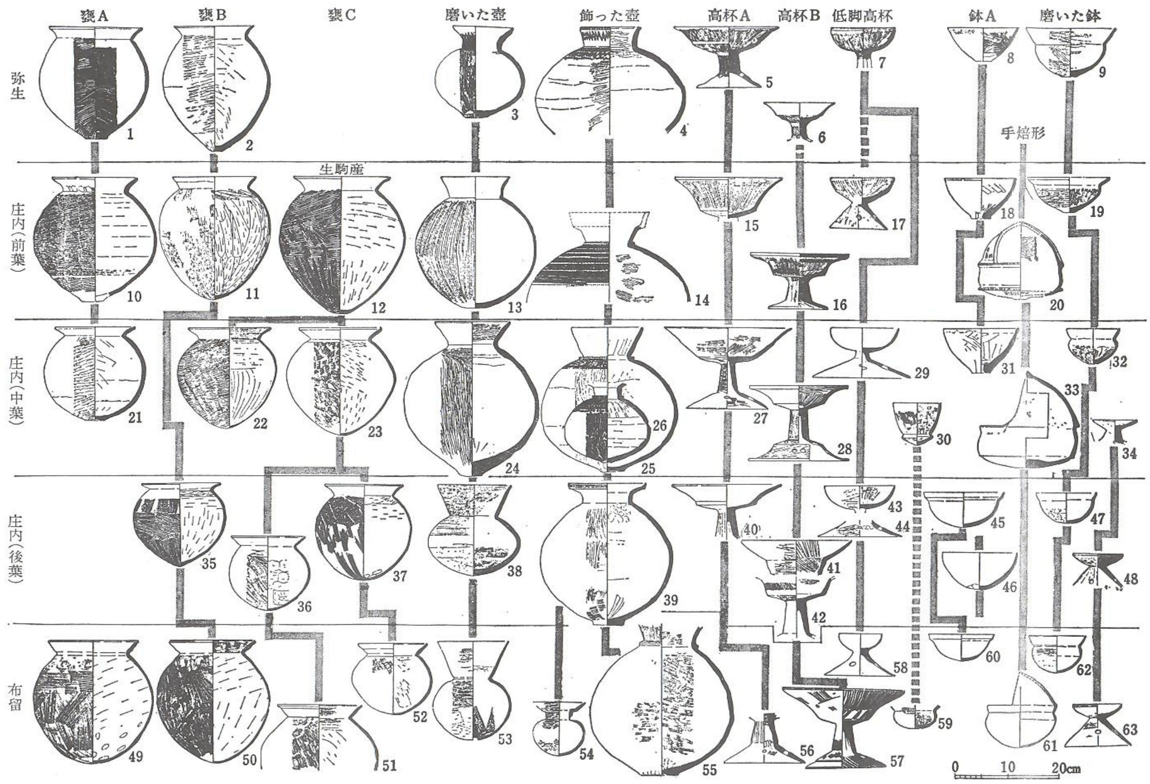


Fig. 4.23 Example of typological sequences of pottery (source: Okita 1987)

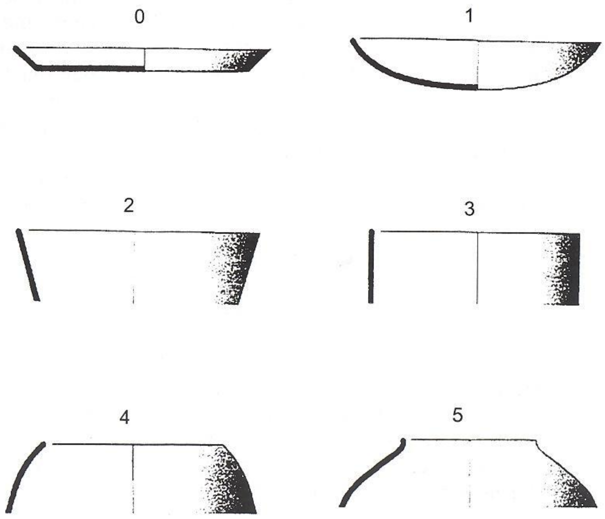


Fig. 5.1 Restriction scheme in a hypothetical assemblage by Pope (source: Pope 2003)

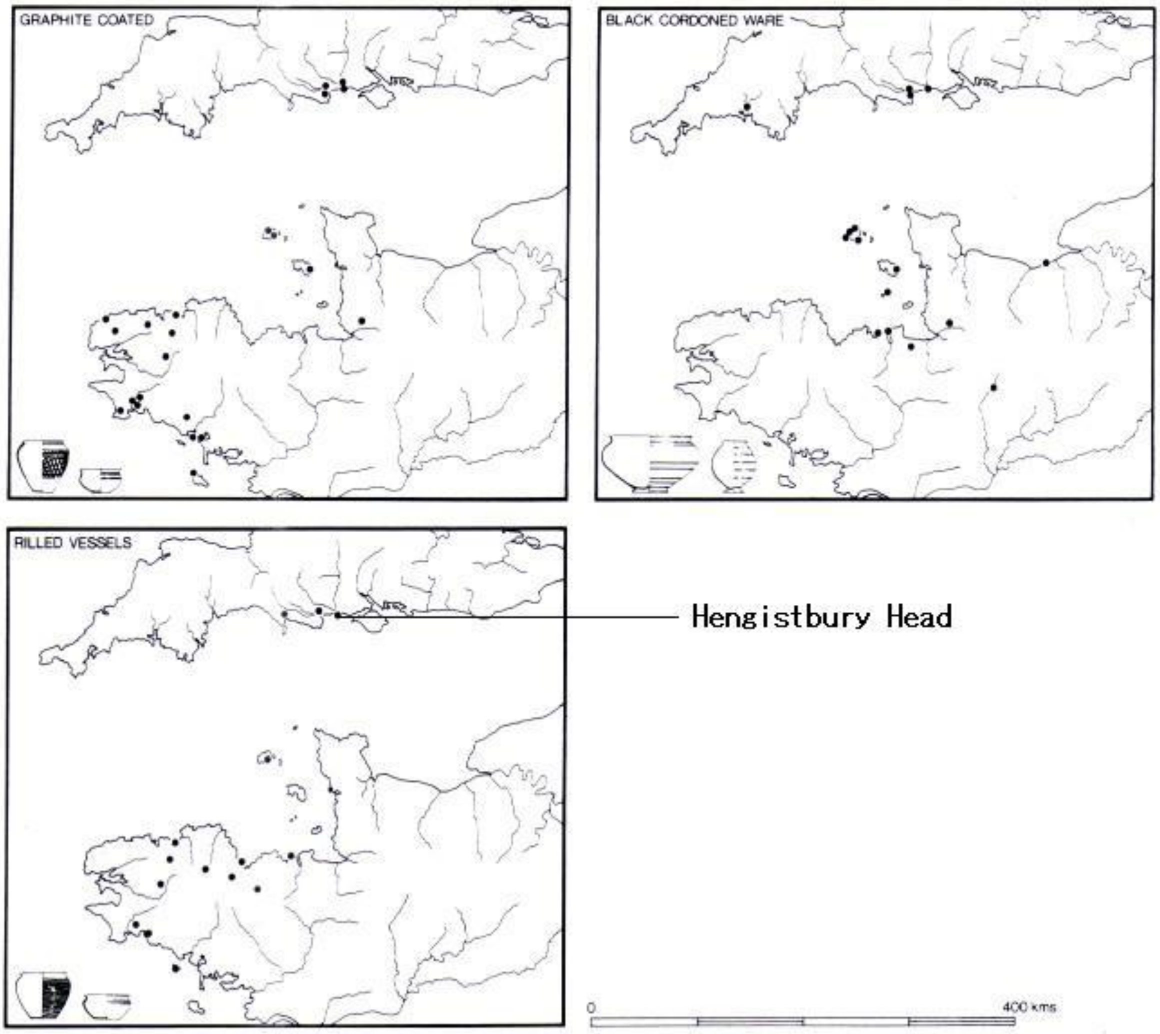


Fig. 5.2 The location of Hengistbury Head in Dorset and distribution of Armorican ceramics (source: Cunliffe 1991)

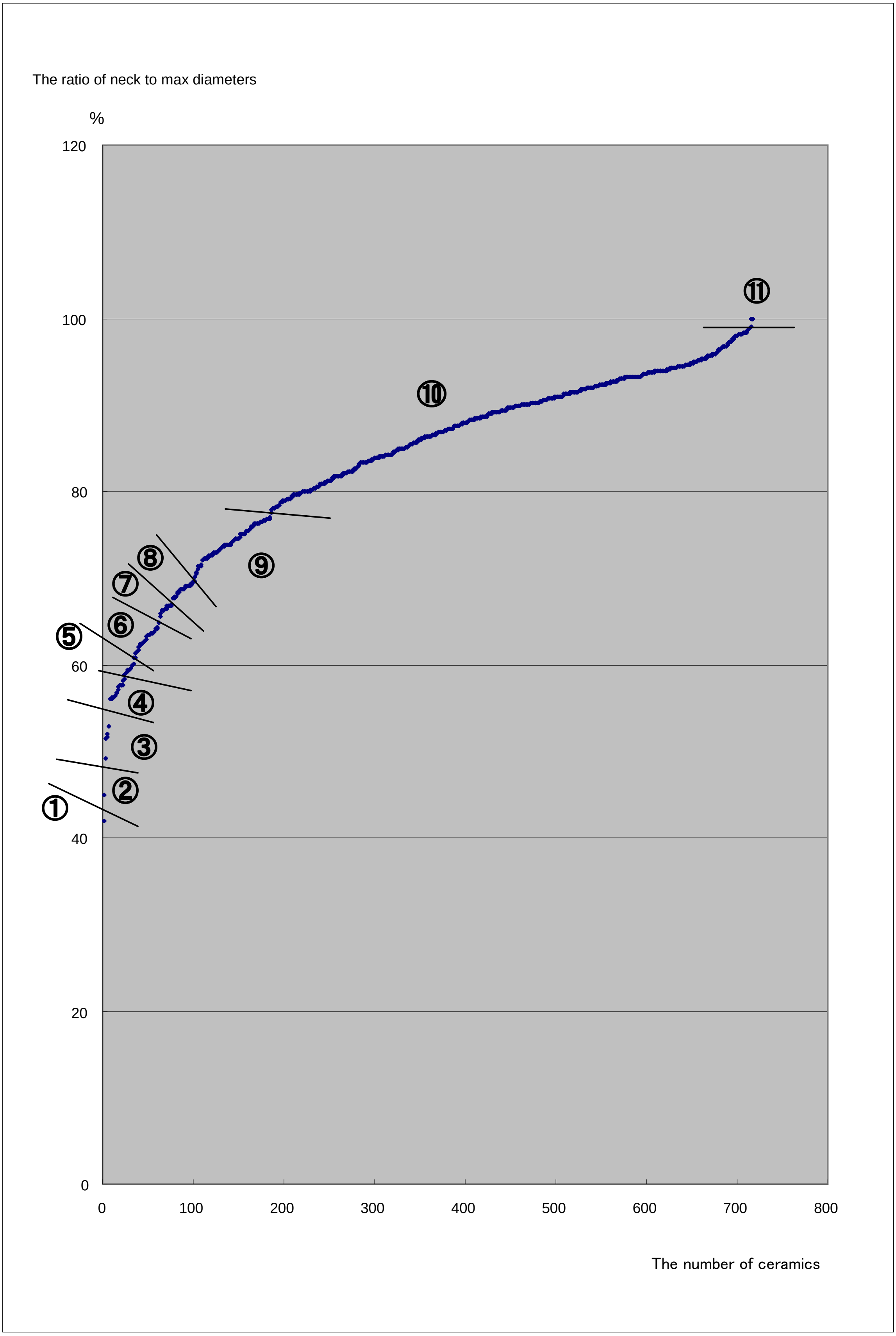


Fig. 5.3 The ratios of neck diameters to max diameters of ceramics from Hengistbury Head

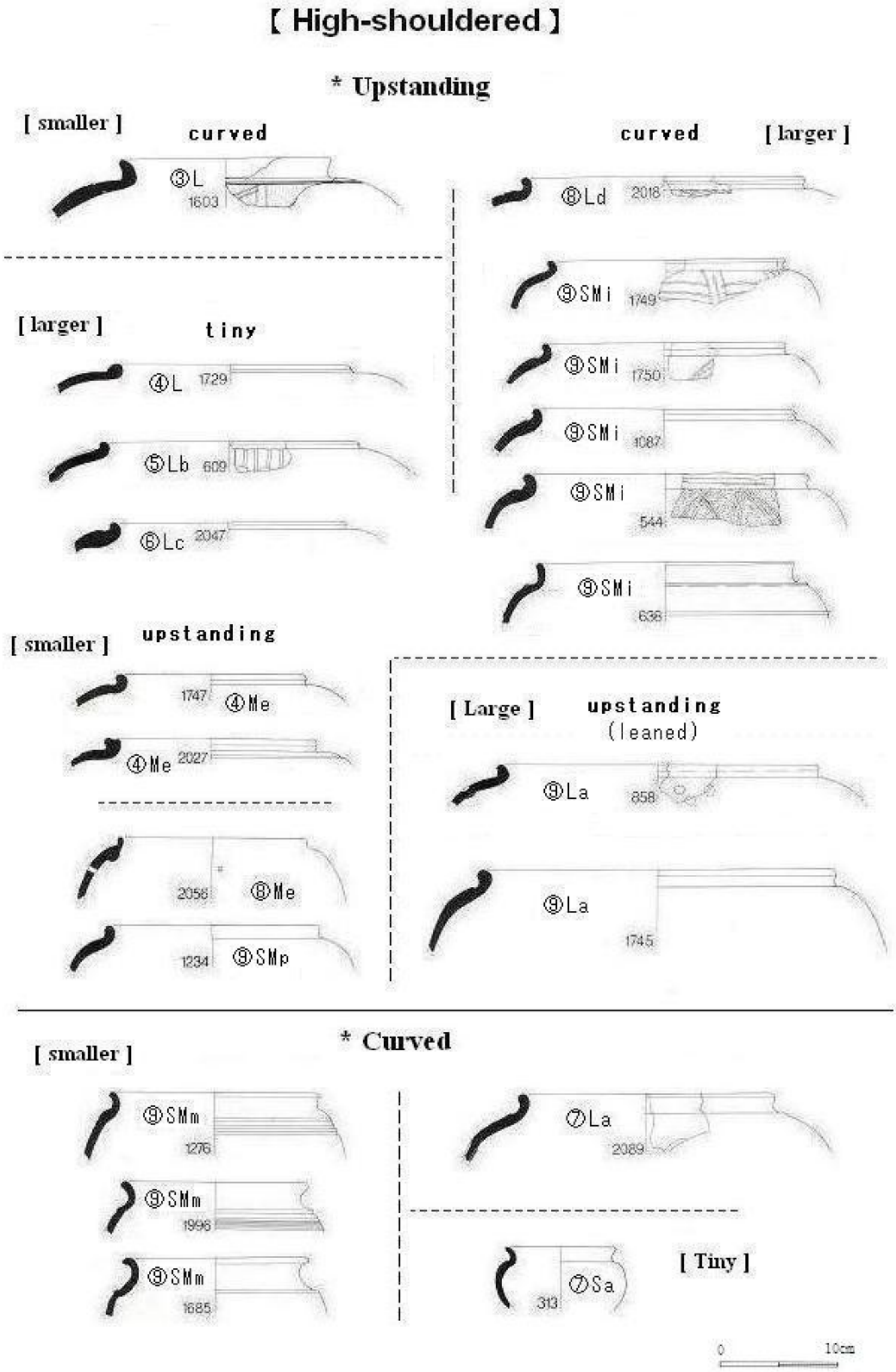


Fig. 5.4 The ‘ High- shouldered ’ types in categories from ① to ⑨

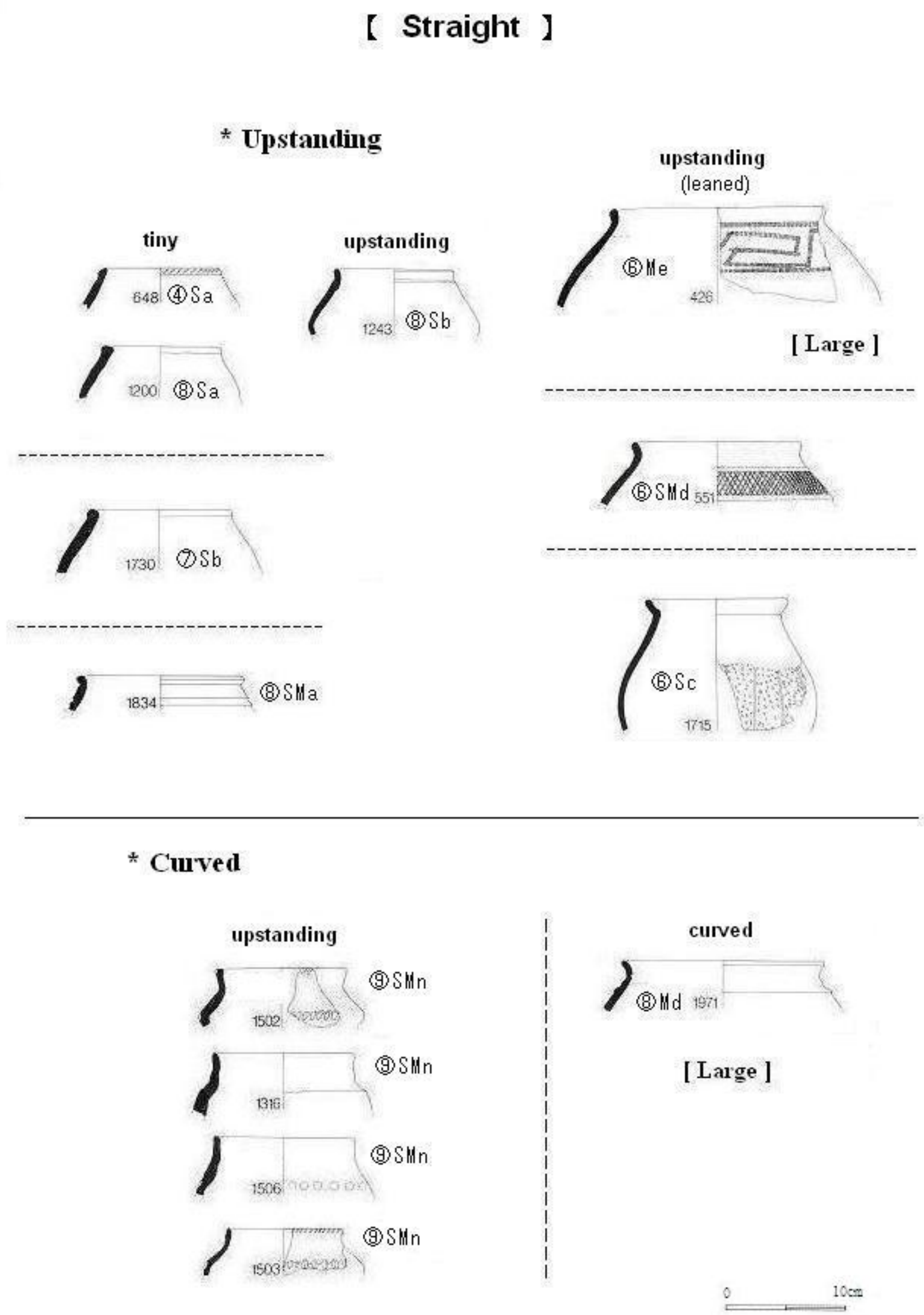


Fig. 5.5 The ‘ Straight ’ types in categories from ① to ⑨

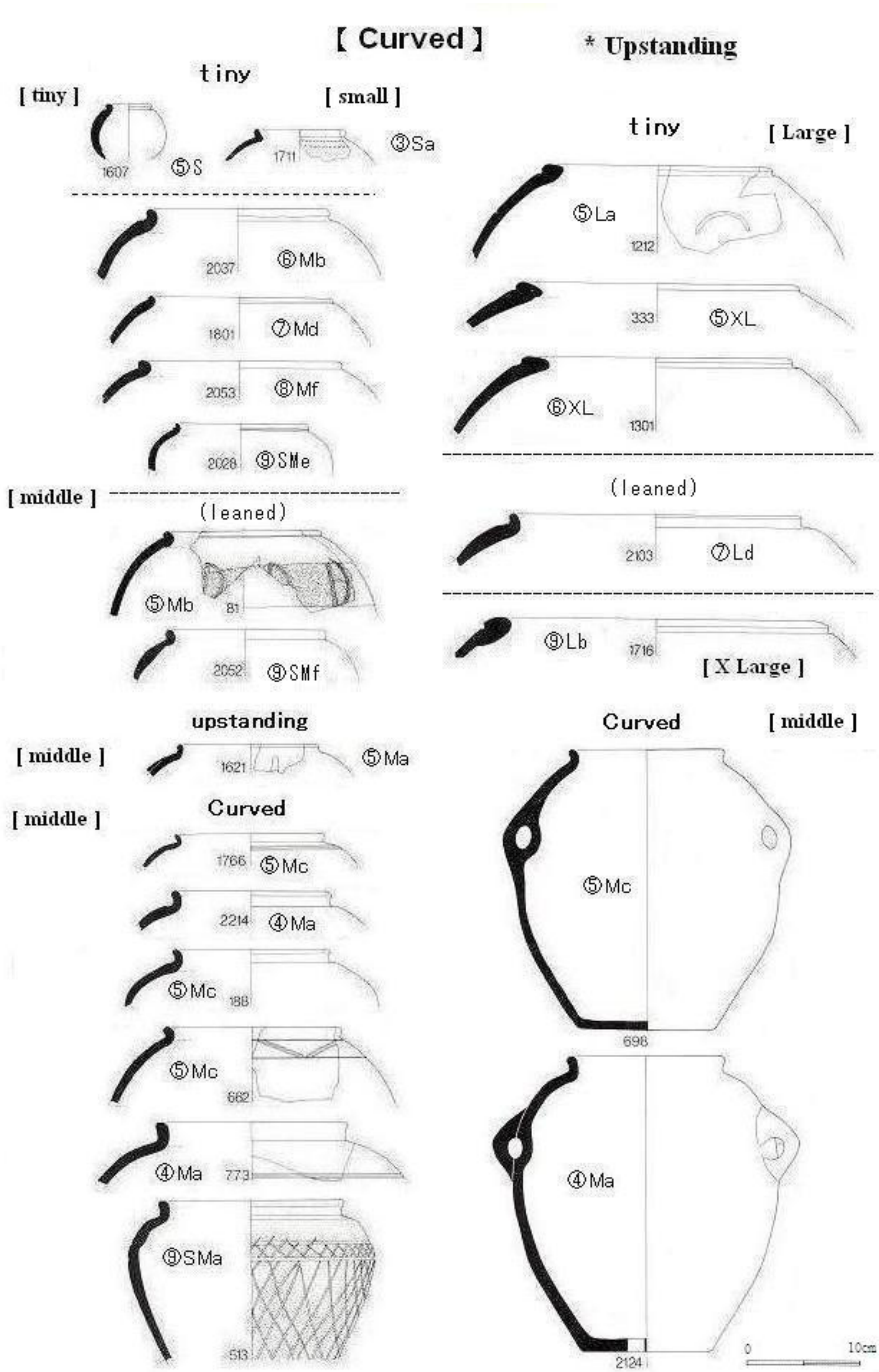


Fig. 5.6 The ‘ Curved ’ types (1) in categories from ① to ⑨

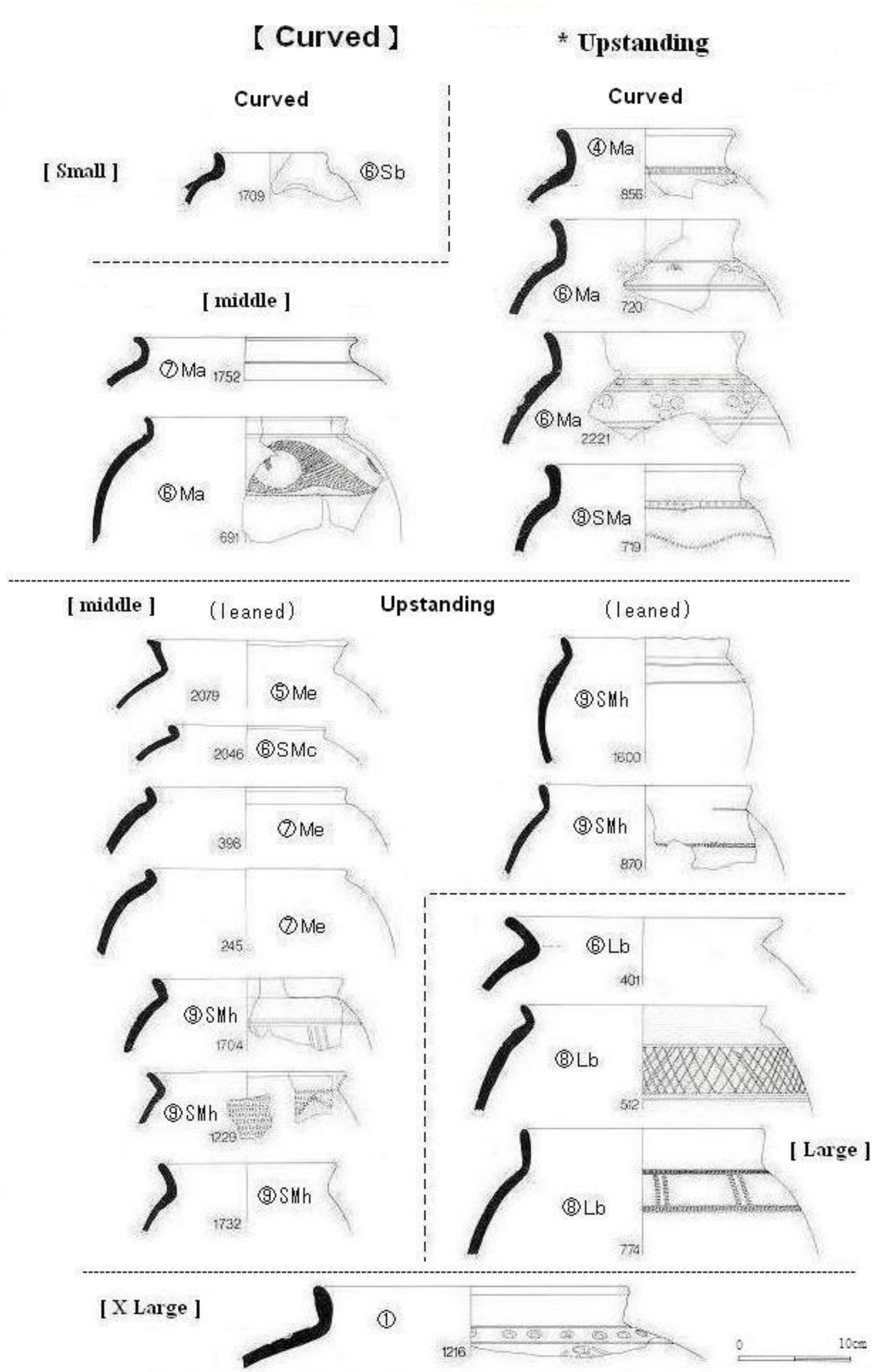


Fig. 5.7 The ' Curved ' types (2) in categories from ① to ⑨

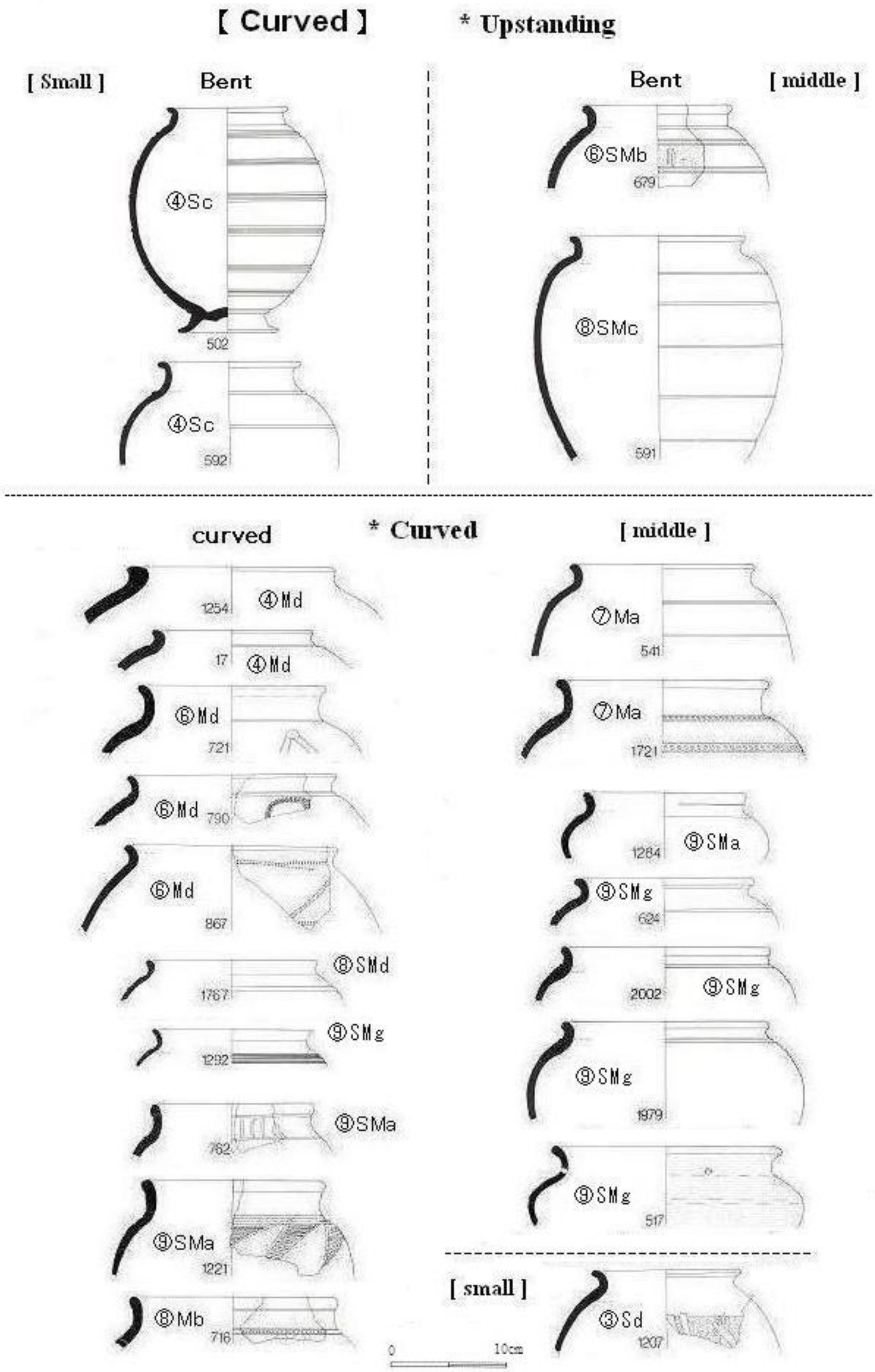


Fig. 5.8　　The ' Curved ' types (3) in categories from ① to ⑨

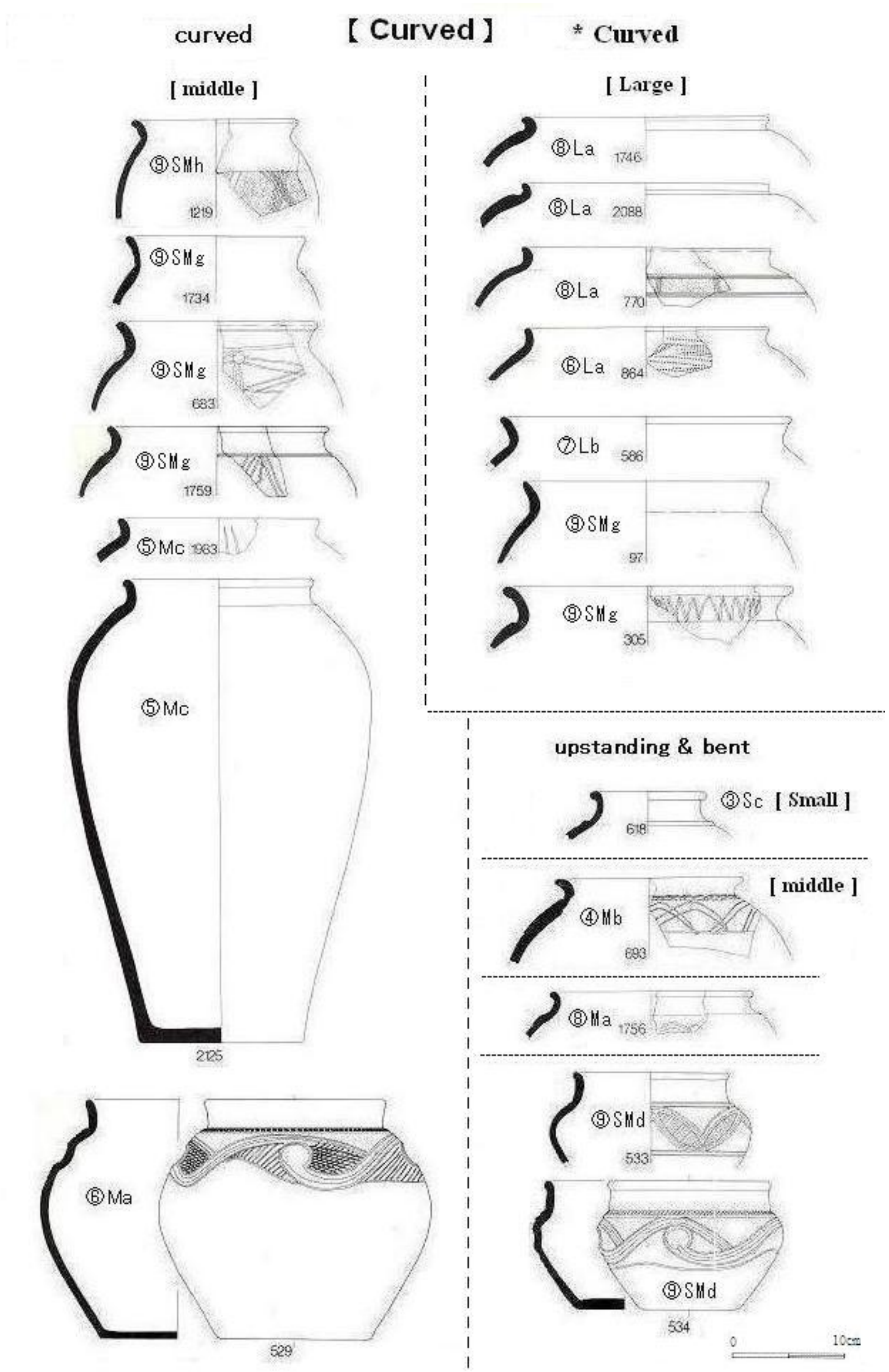


Fig. 5.9 The ' Curved ' types (4) in categories from ① to ⑨

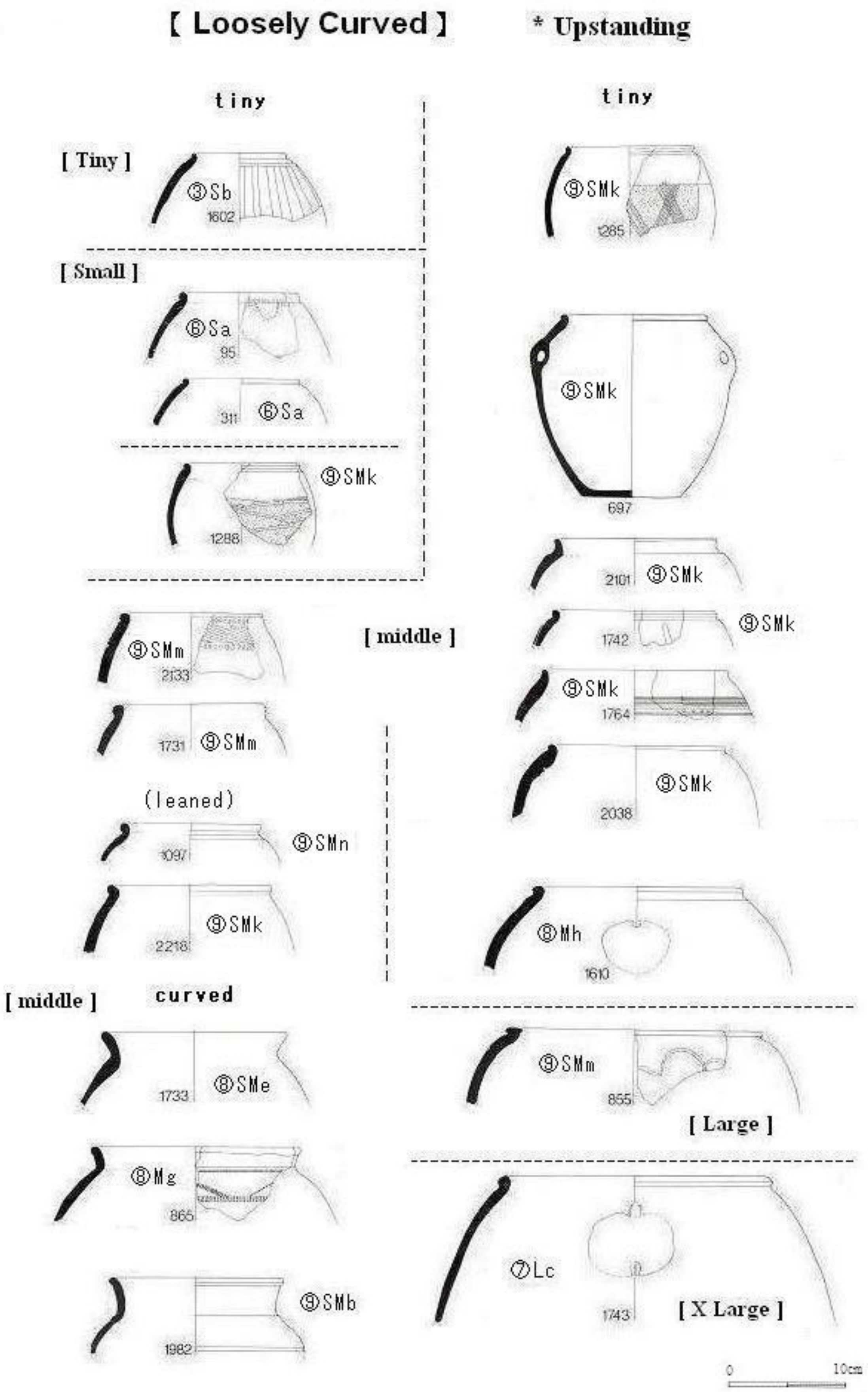


Fig. 5.10 The ' Loosely Curved ' types (1) in categories from ① to ⑨

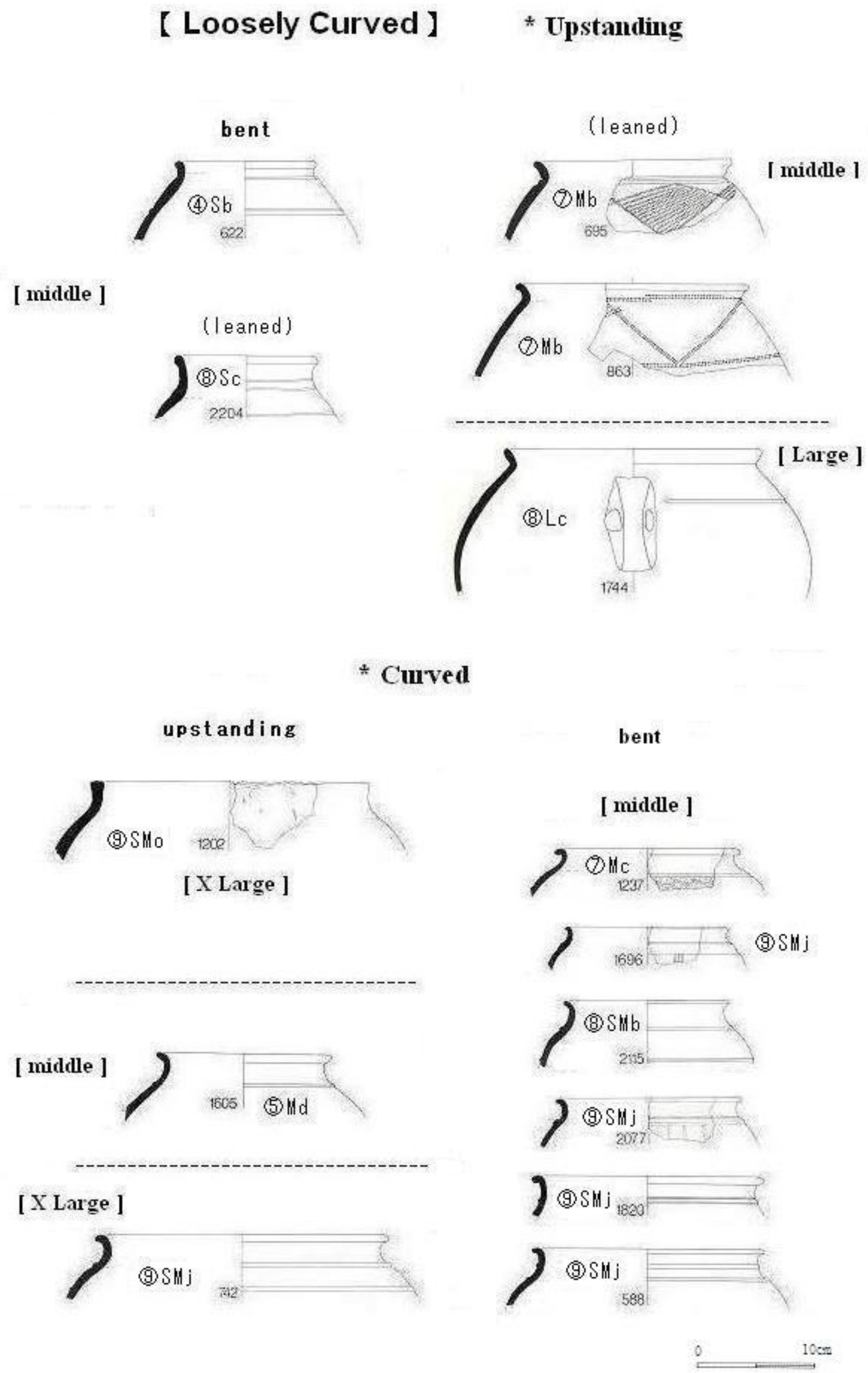


Fig. 5.11 The ‘ Loosely Curved ’ types (2) in categories from ① to ⑨

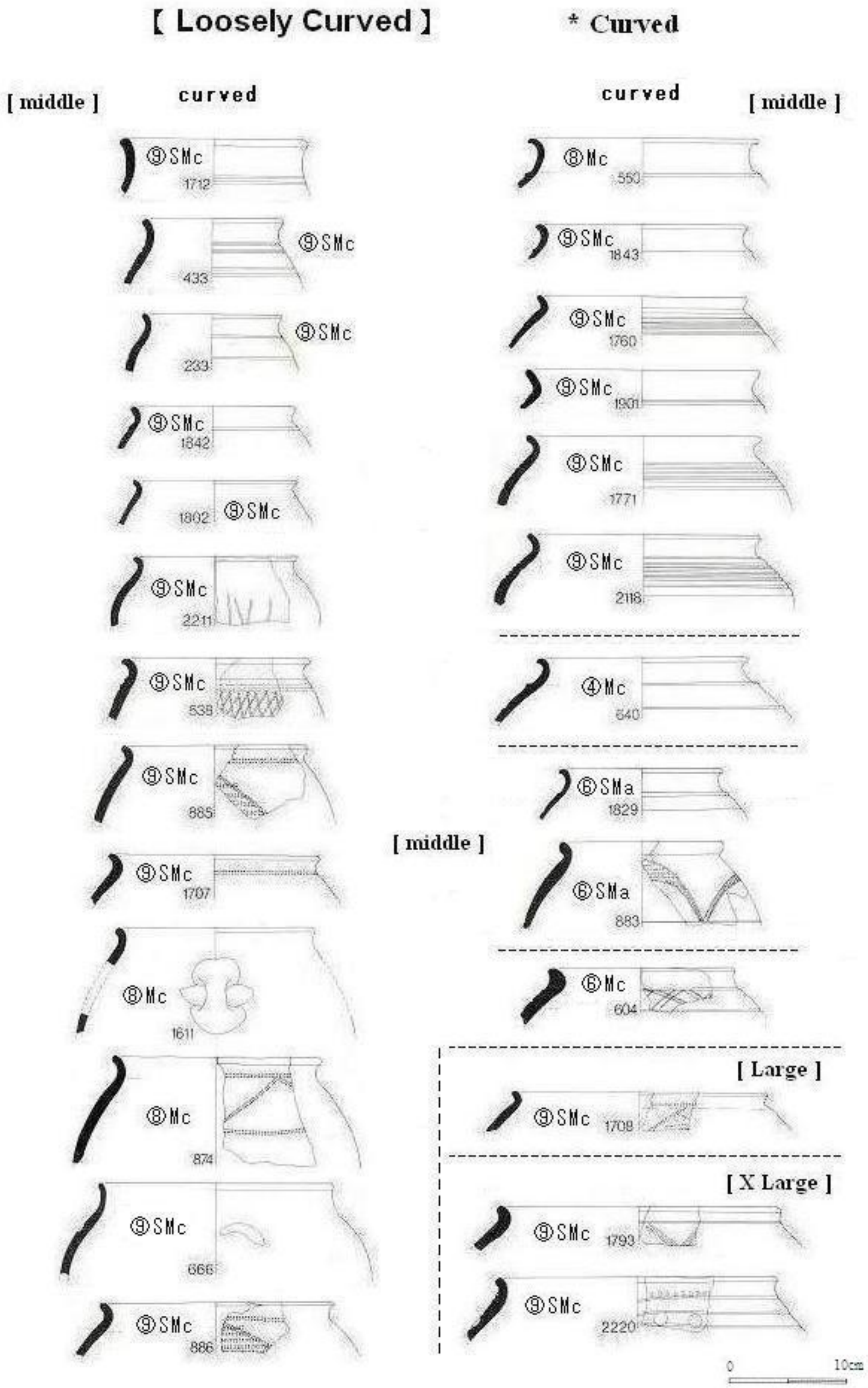
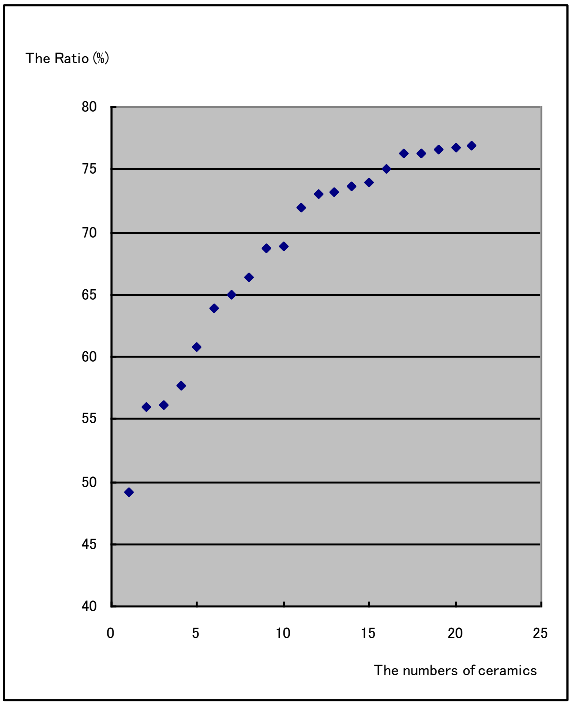


Fig. 5.12 The ‘ Loosely Curved ’ types (3) in categories from ① to ⑨



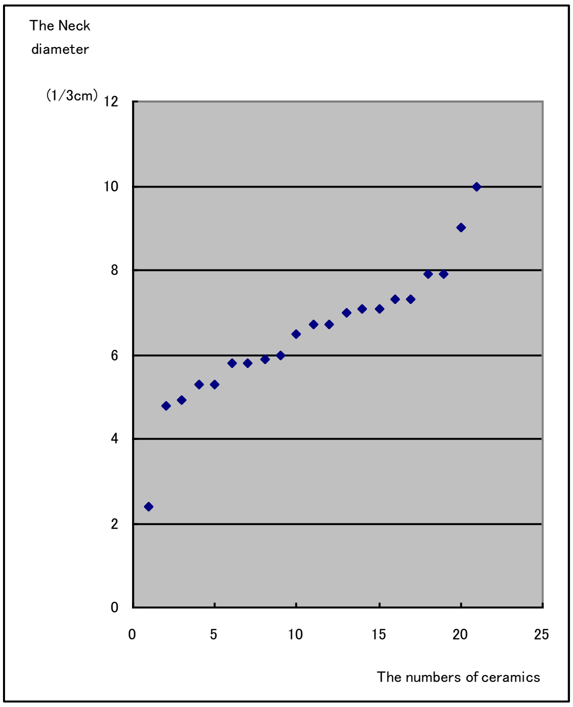
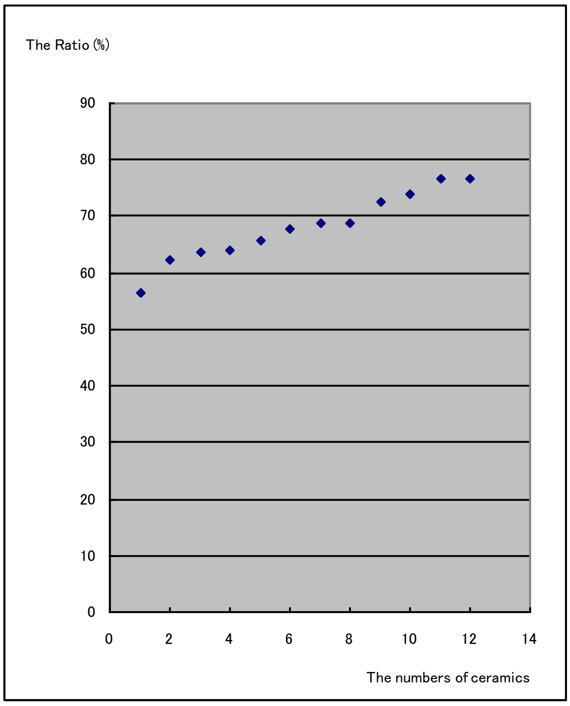


Fig. 5.13 (left) The ratio of neck diameters to max. diameters in the ‘ High-shouldered ’ types

Fig. 5.14 (right) The neck diameters of the ‘ High-shouldered ’ type ceramics



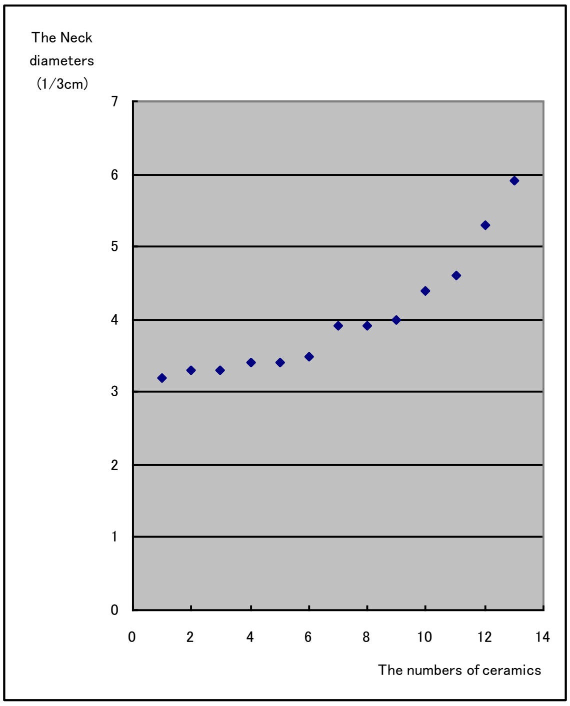
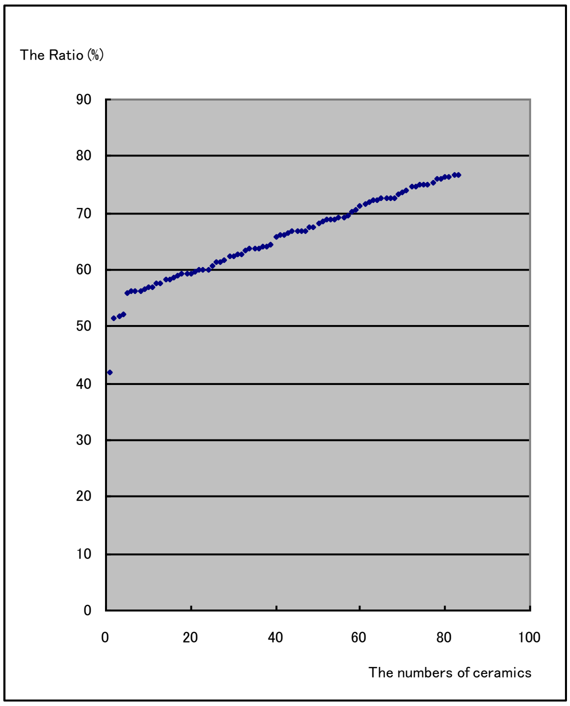


Fig. 5.15 (left) The ratio of neck diameters to max. diameters in the ‘ Straight ’ types

Fig. 5.16 (right) The neck diameters of the ‘ Straight ’ type ceramics



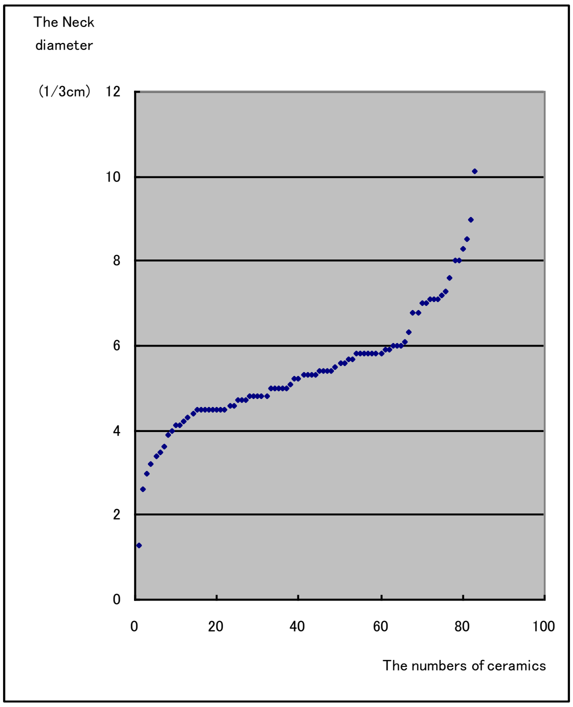
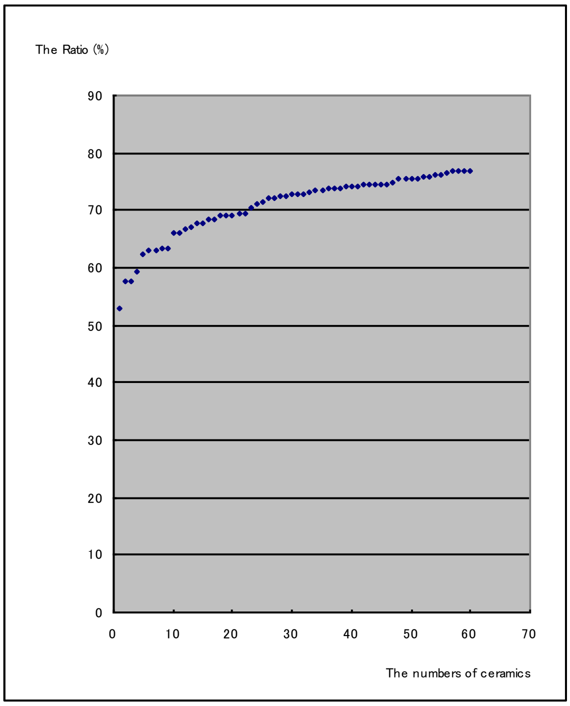


Fig. 5.17 (left) The ratio of neck diameters to max. diameters in the ' Curved ' types

Fig. 5.18 (right) The neck diameters of the ' Curved ' type ceramics



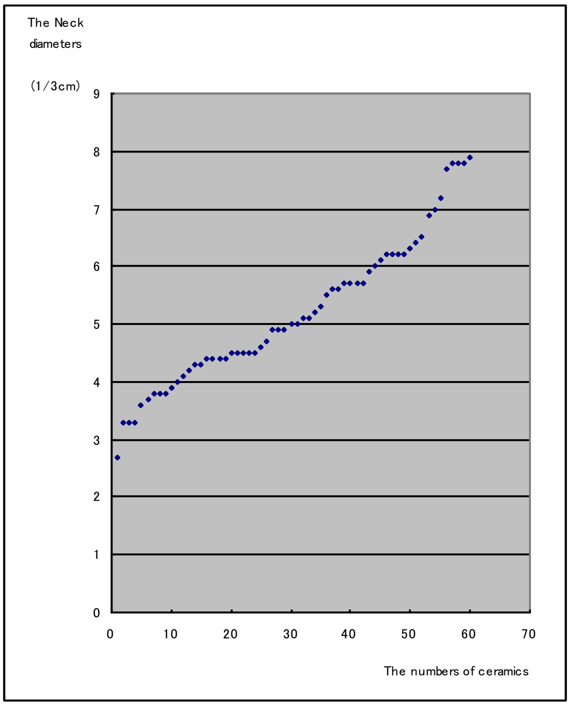


Fig. 5.19 (left) The ratio of neck diameters to max. diameters in the ' Loosely Curved ' types

Fig. 5.20 (right) The neck diameters of the ' Loosely Curved ' type ceramics

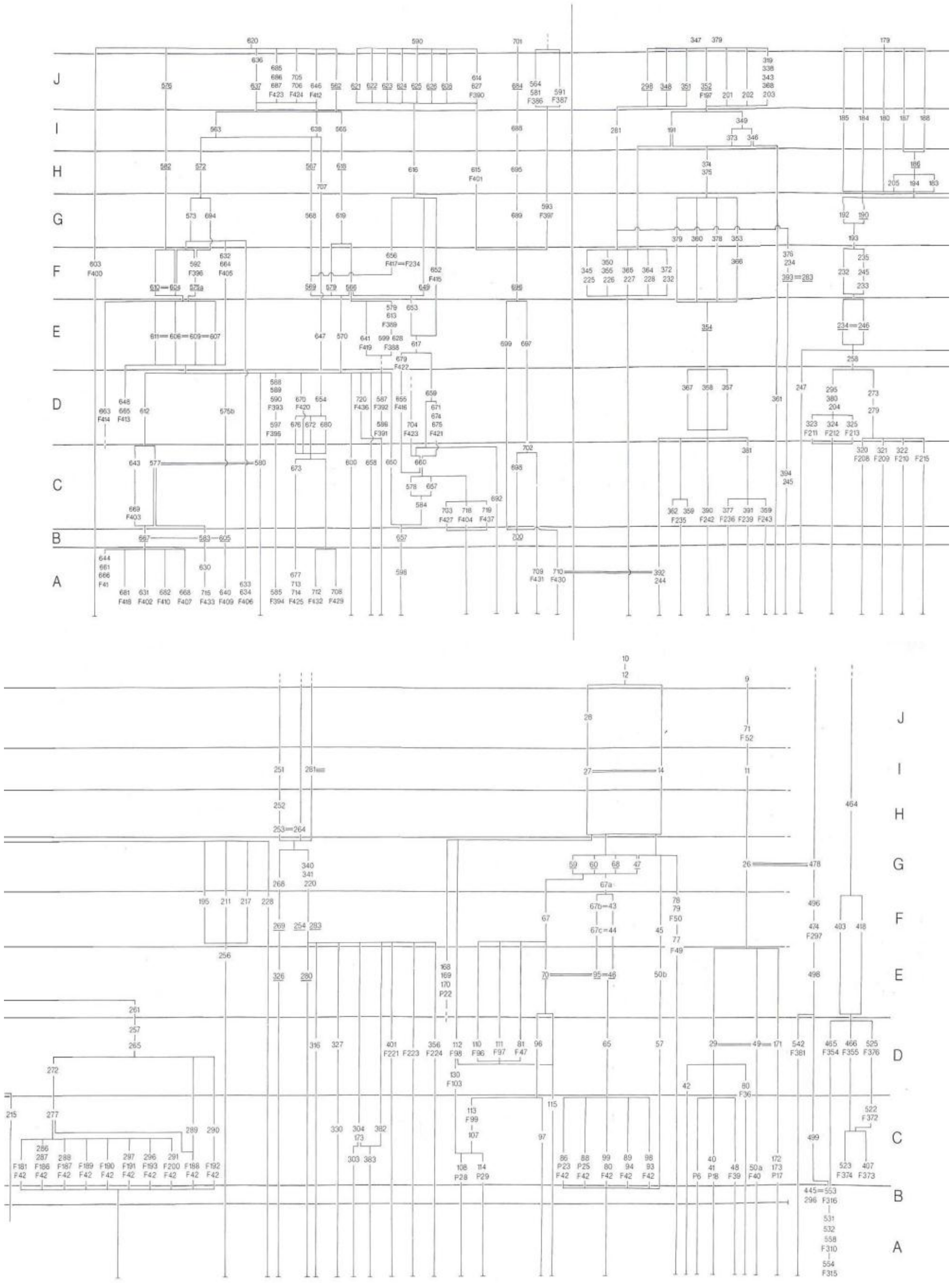


Figure 5.21 The stratigraphy in the excavation of Site 1: 1979-84 in Hengistbury Head (source: Cunliffe 1987)

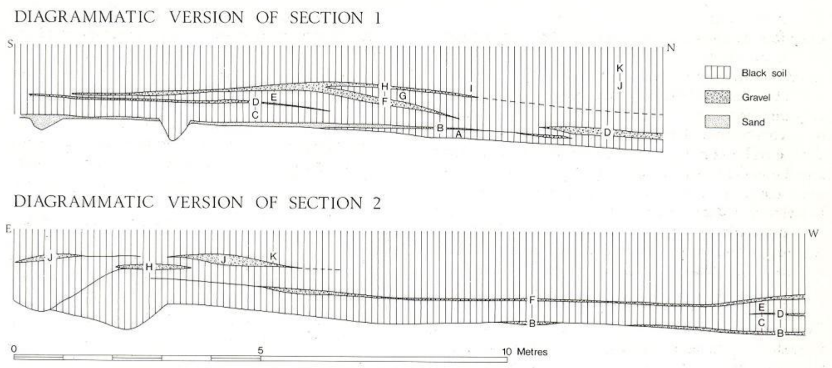


Fig. 5.22 Diagrammatic section through the main deposits in Site 1 (source: Cunliffe 1987) * The alphabet letters represent periods

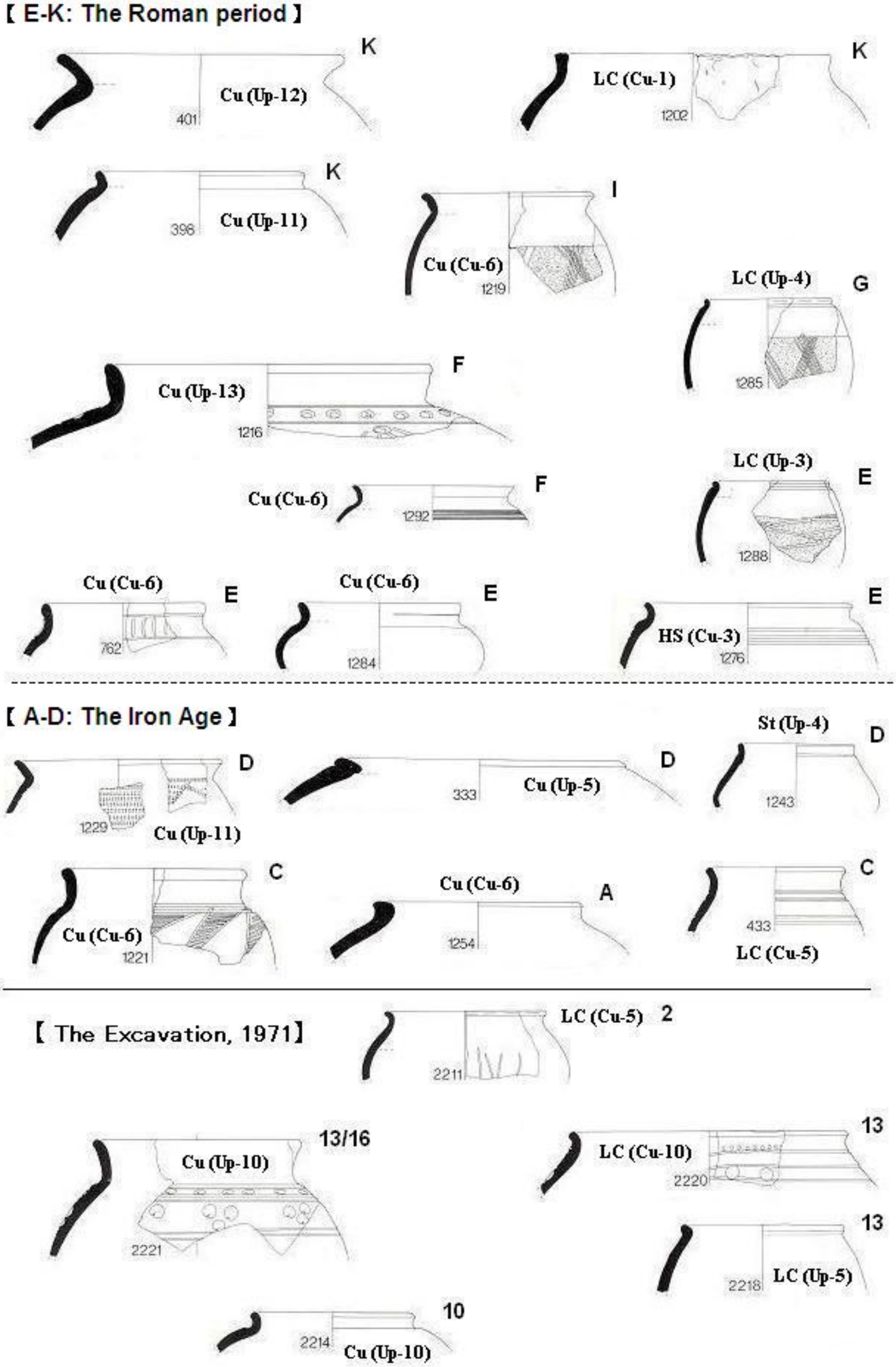


Fig. 5.23 Stratigraphic relations between ceramic types in categories ① to ⑨

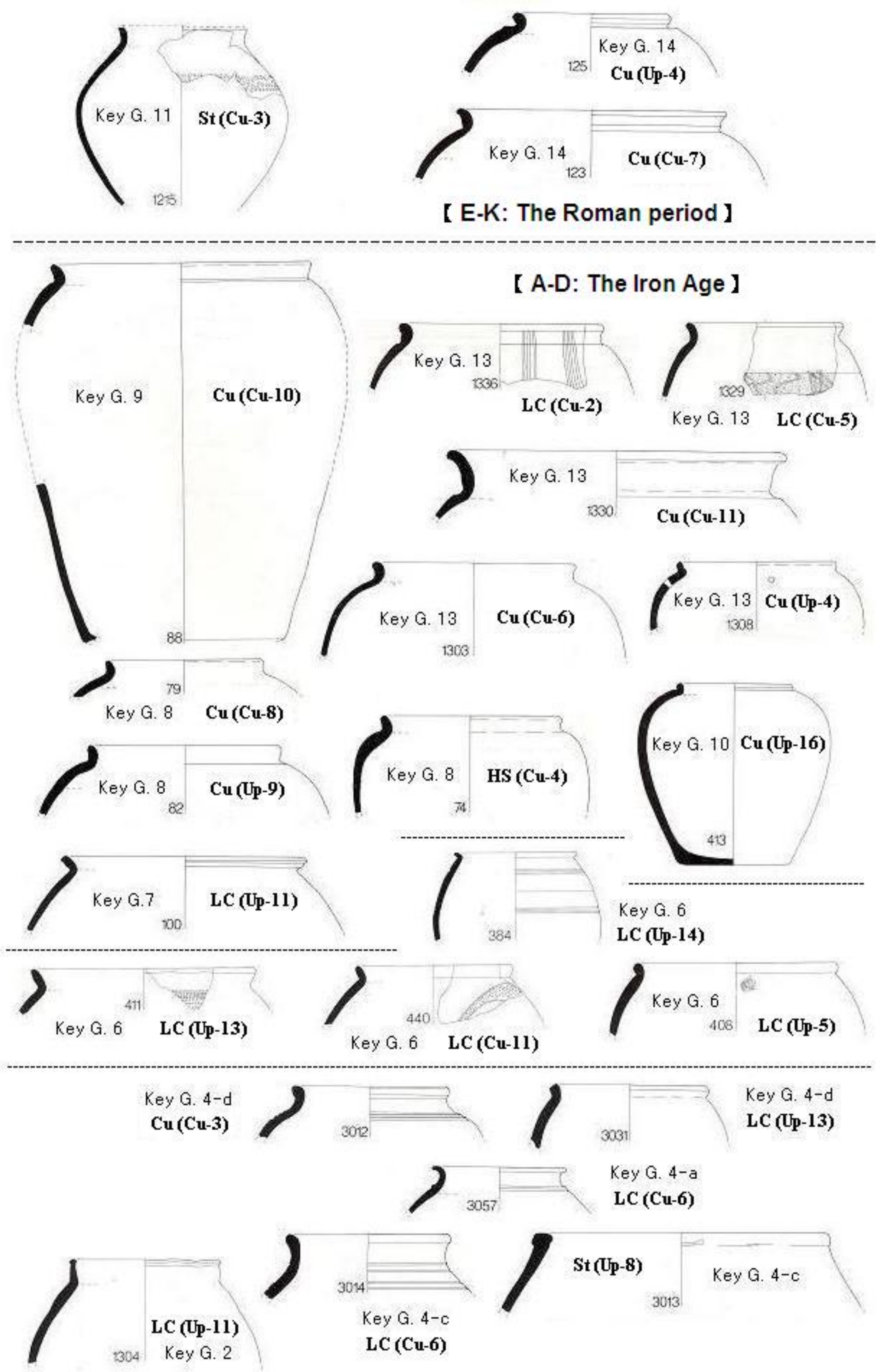


Fig. 5.24 Stratigraphic relations between ceramic types in well-stratified groups of categories ① to ⑨

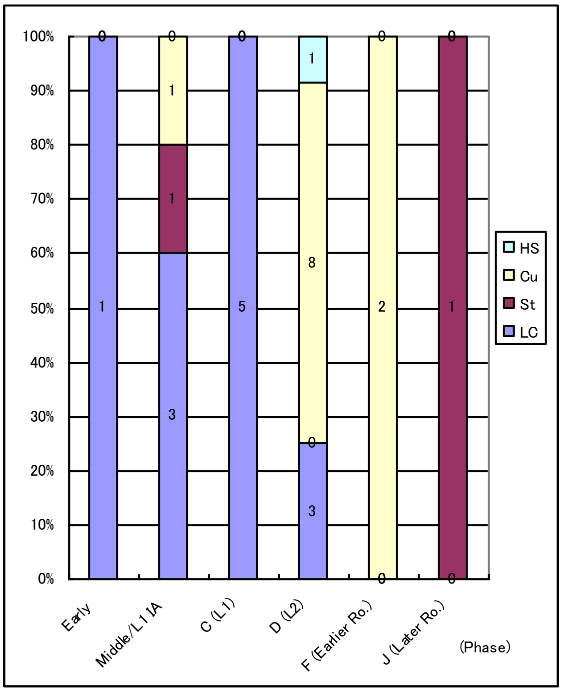


Fig. 5.25 The number of the upper body types in each phase (categories ① to ⑨)

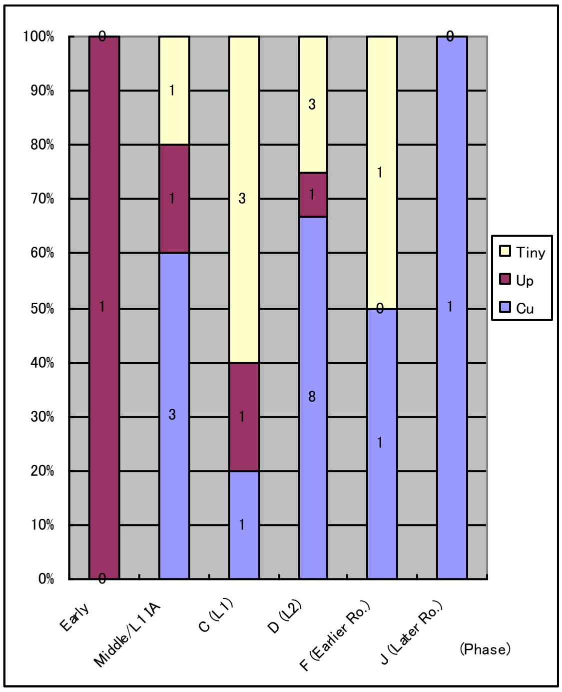


Fig. 5.26 The number of the neck to rim types in each phase (categories ① to ⑨)

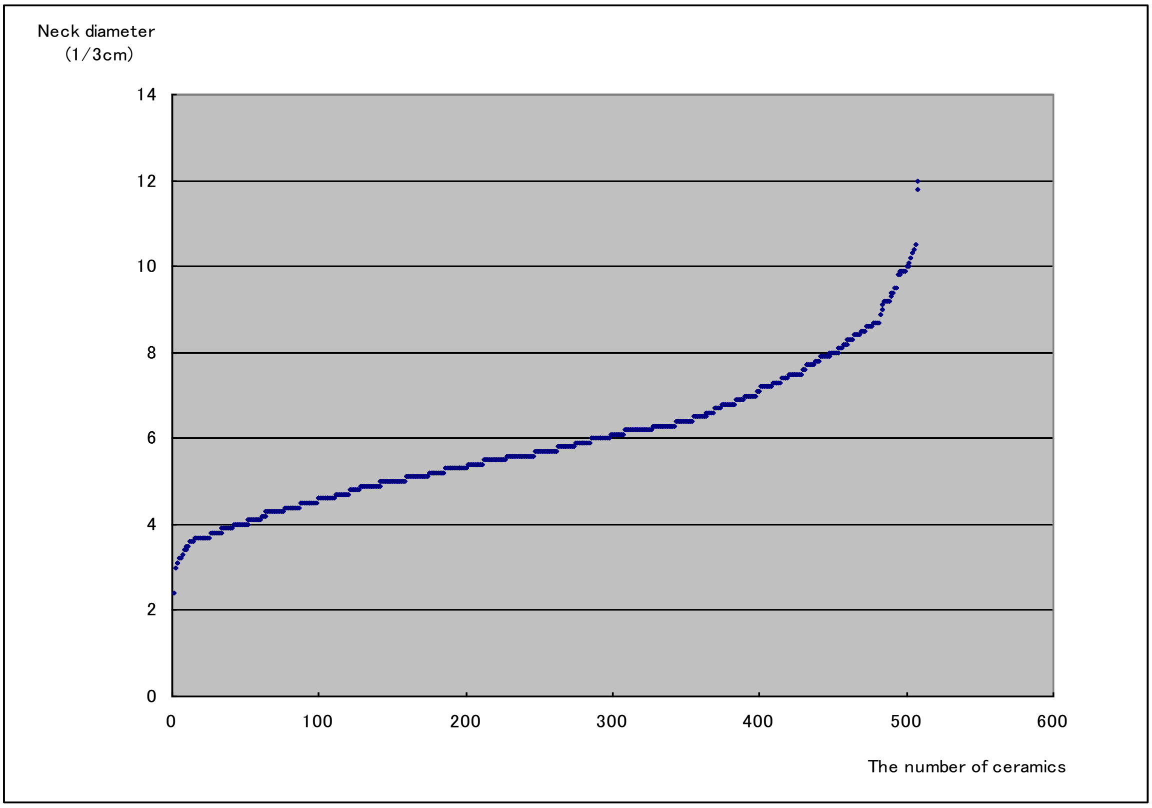


Fig. 5.27 The neck diameters of ceramics in category ⑩

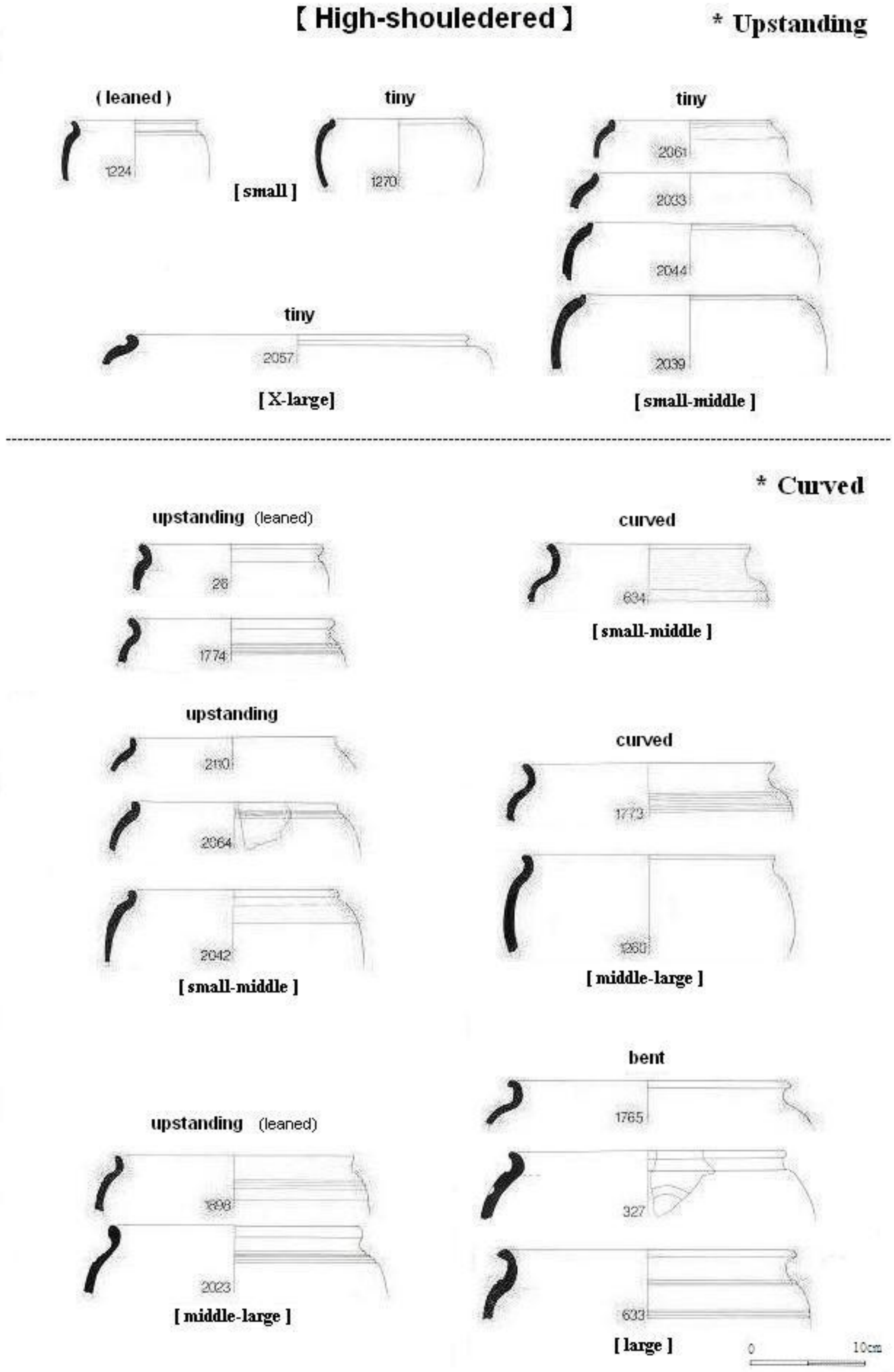


Fig. 5.28 The ' High- shouldered ' types in category ⑩

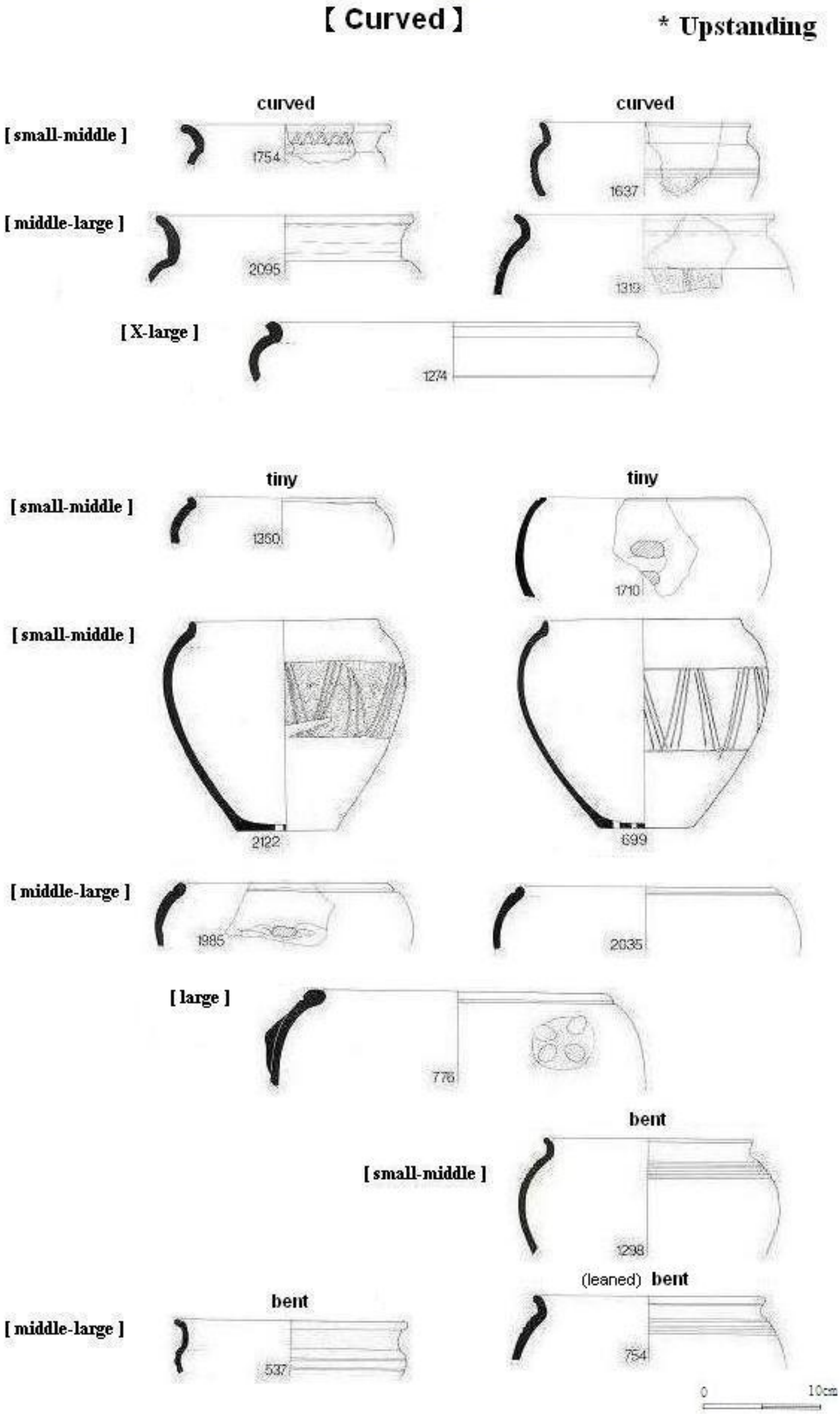


Fig. 5.29　 The ‘ Curved ’ types in category ⑩ (1)

* Curved

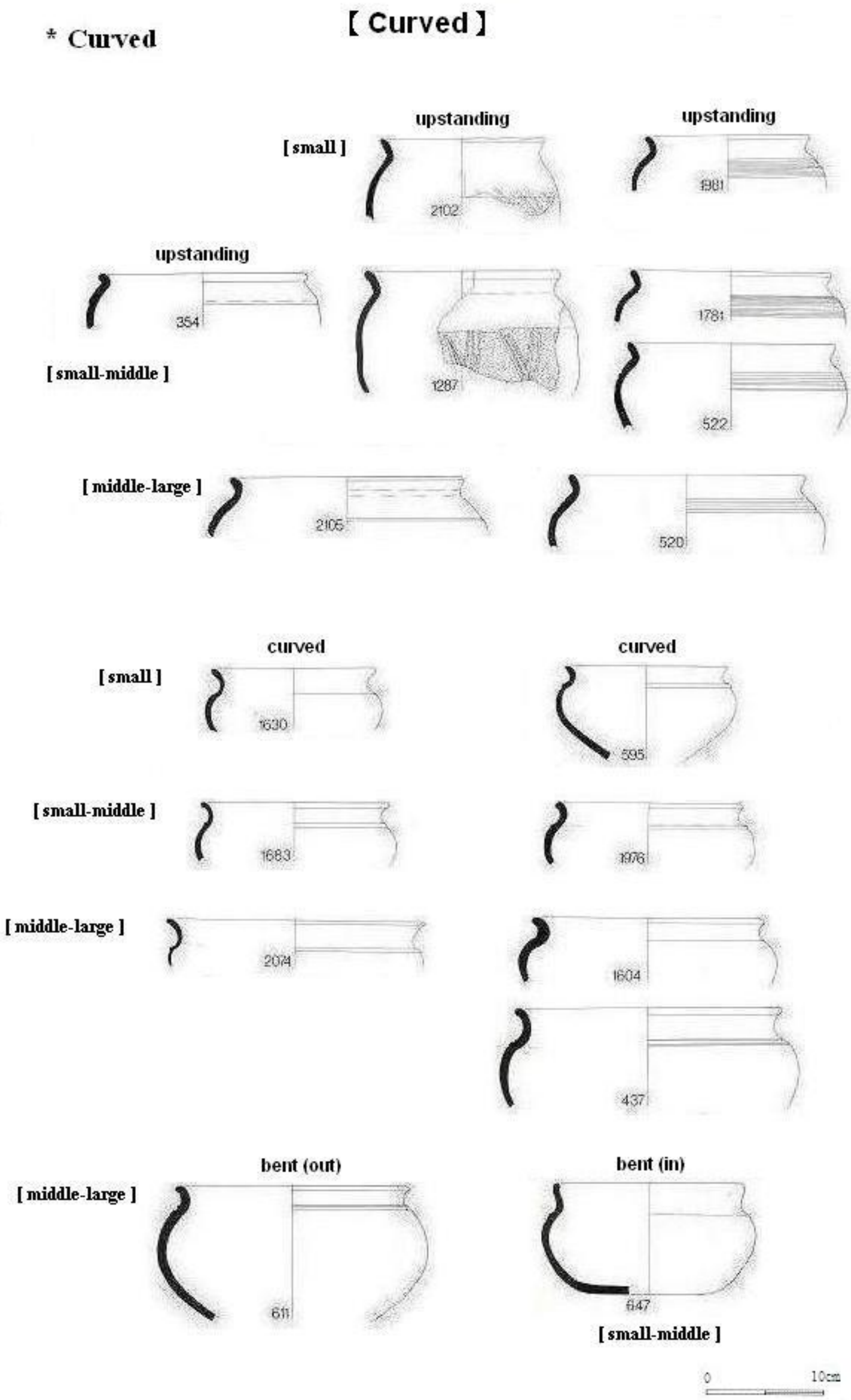


Fig. 5.30 The ' Curved ' types in category ⑩ (2)

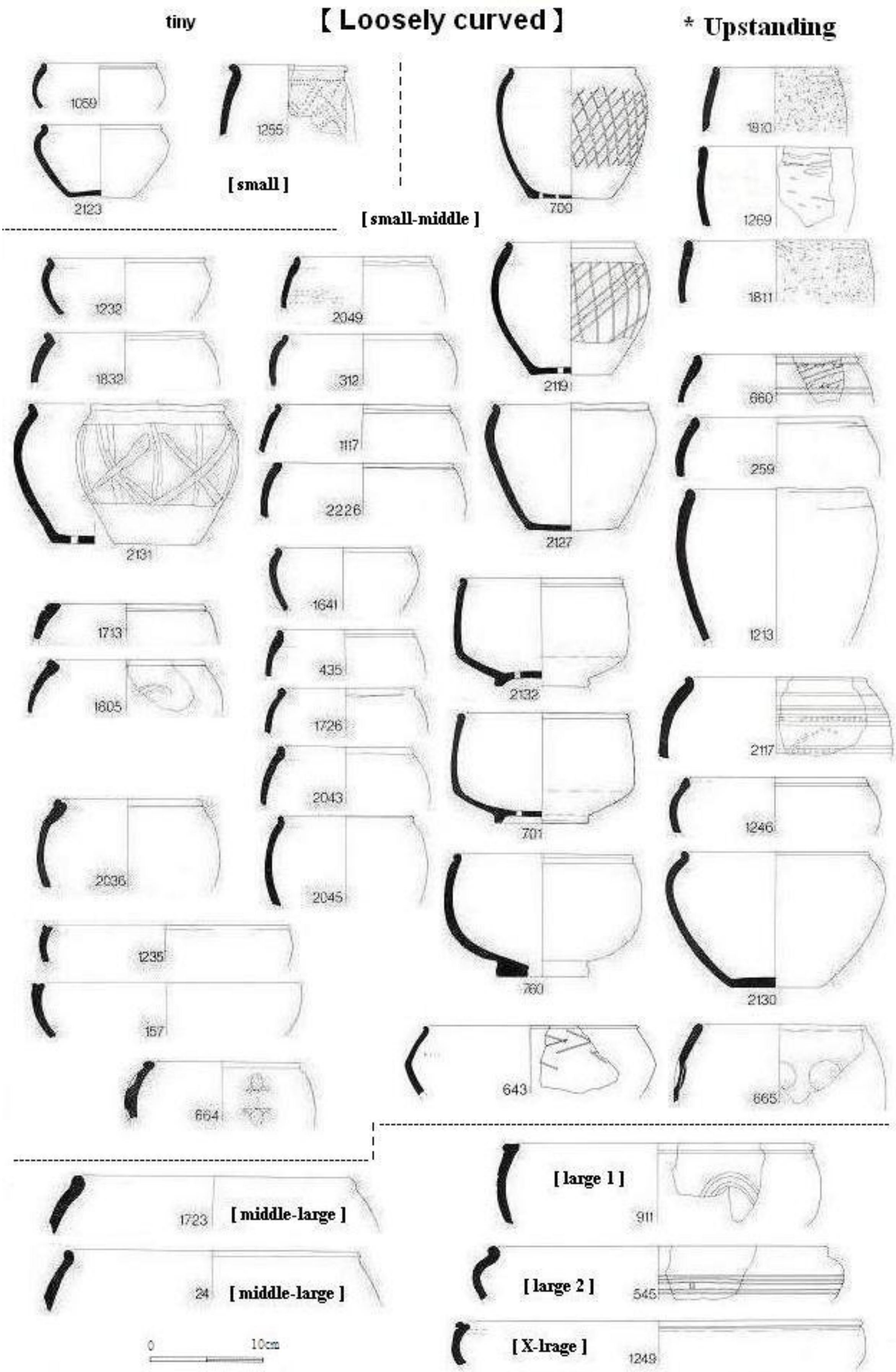


Fig. 5.31 The ' Loosely Curved ' types in category ⑩ (1)

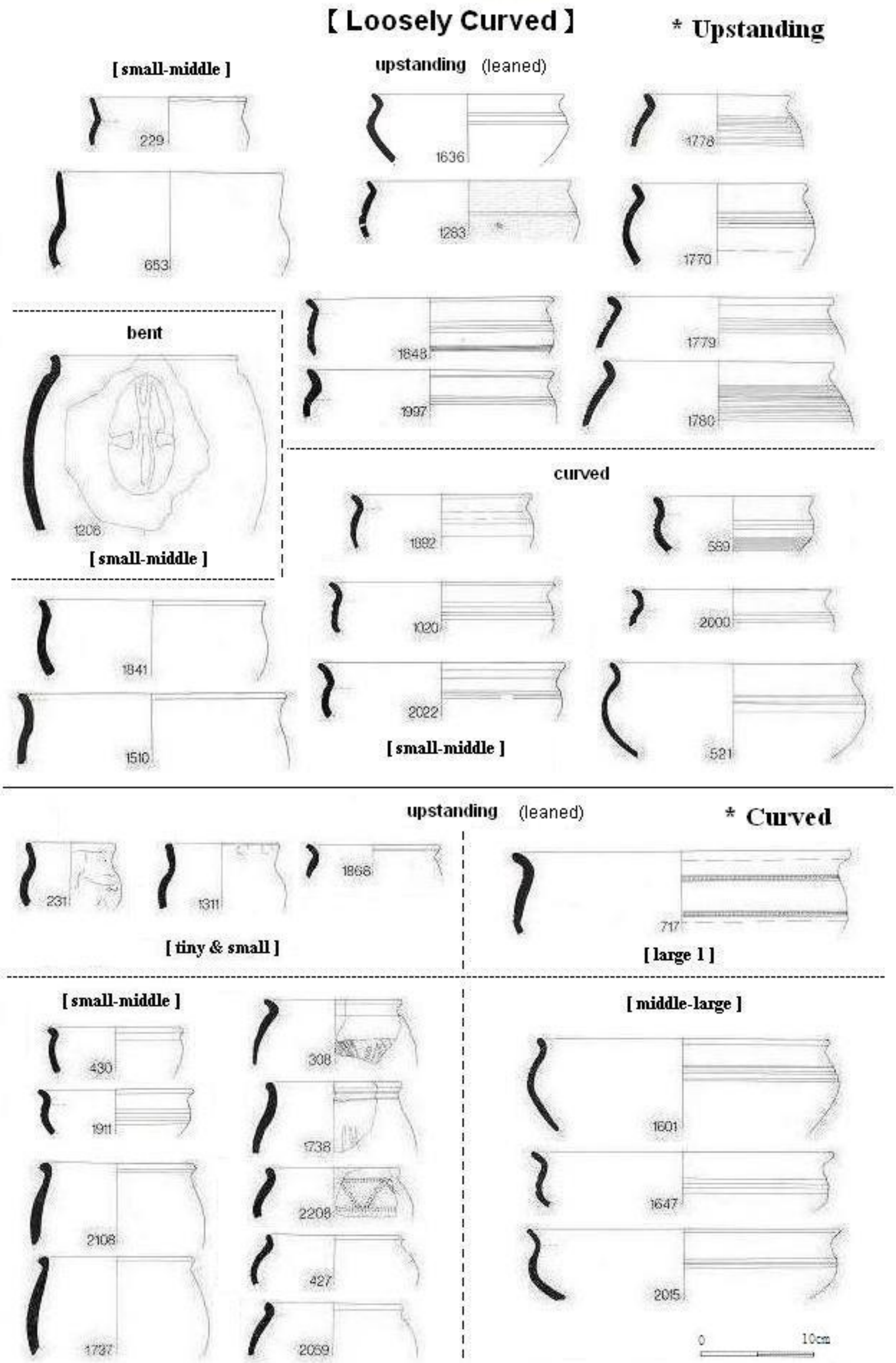


Fig. 5.32 The ‘ Loosely Curved ’ types in category ⑩ (2)

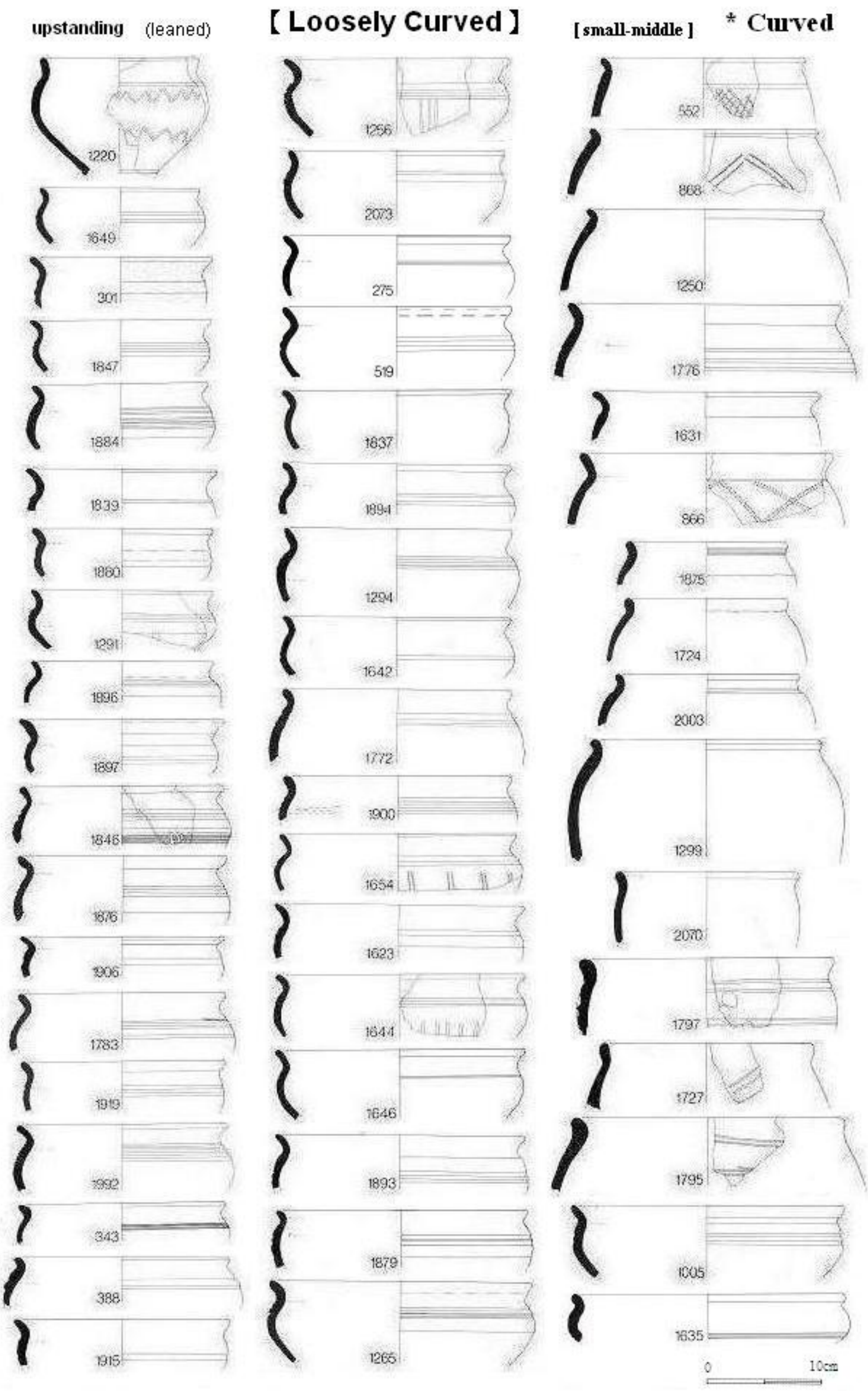


Fig. 5.33 The ' Loosely Curved ' types in category ⑩ (3)

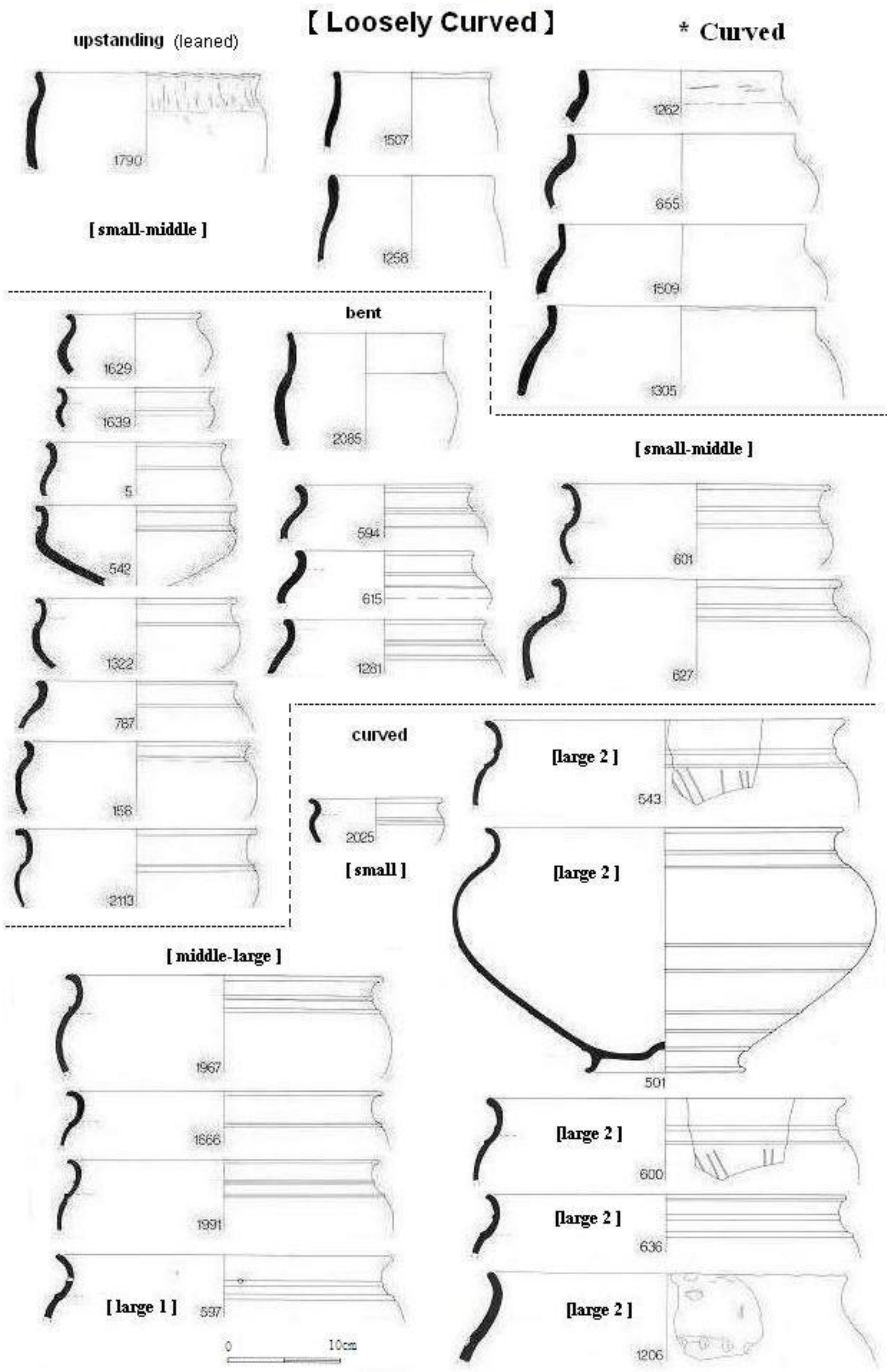


Fig. 5.34 The ' Loosely Curved ' types in category ⑩ (4)

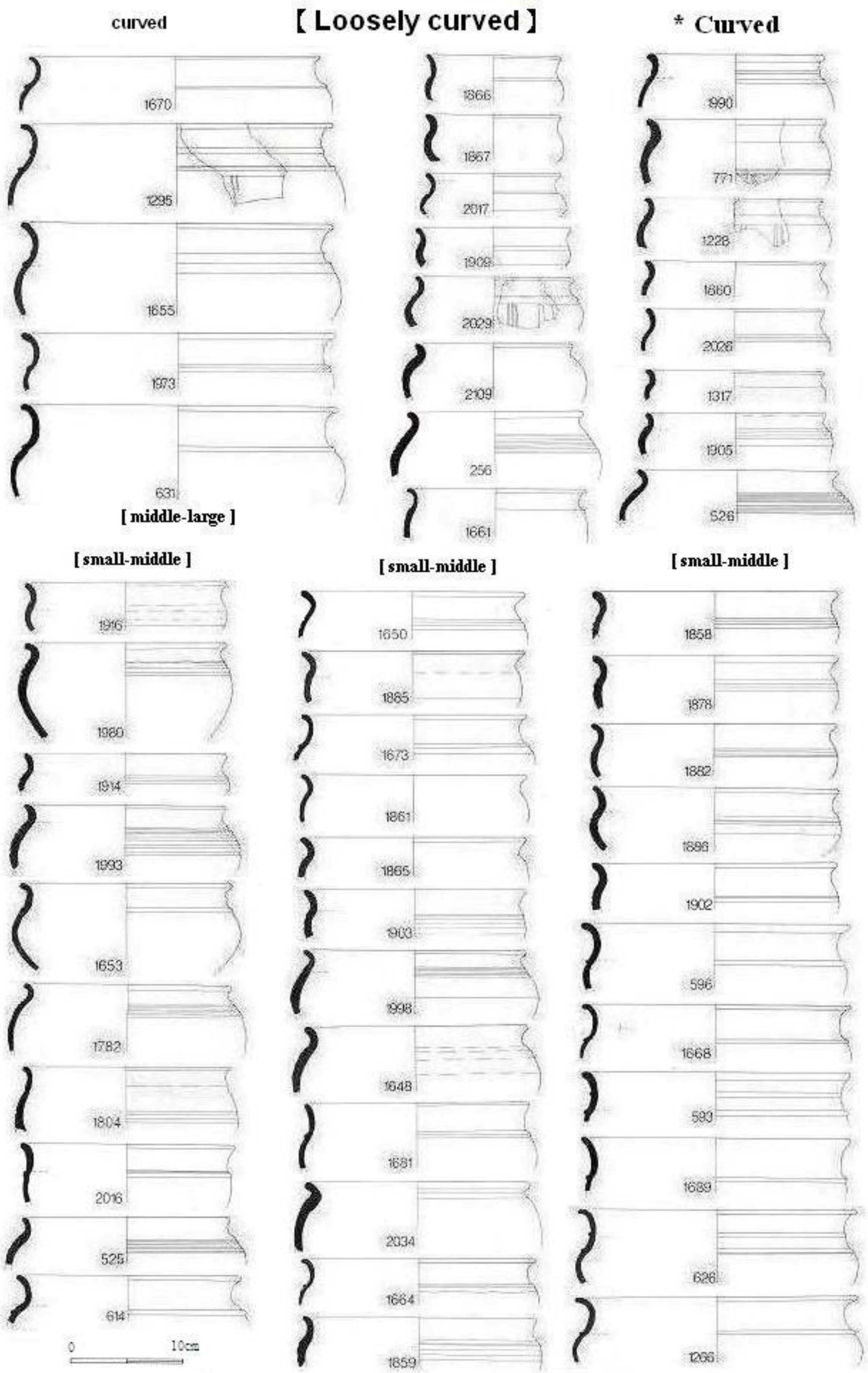


Fig. 5.35 The ' Loosely Curved ' types in category ⑩ (5)

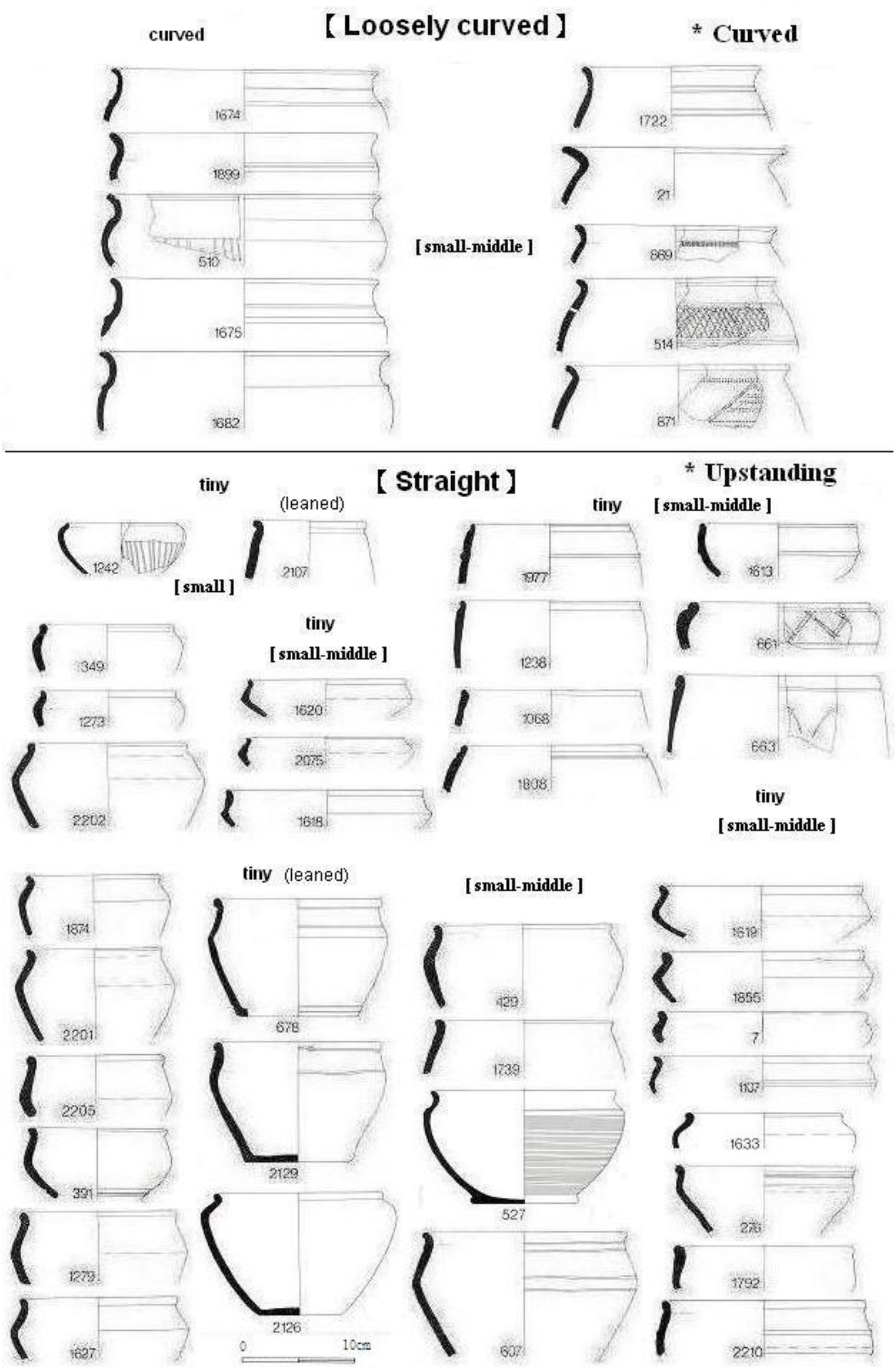


Fig. 5.36 The ' Loosely Curved ' types in category ⑩ (6)

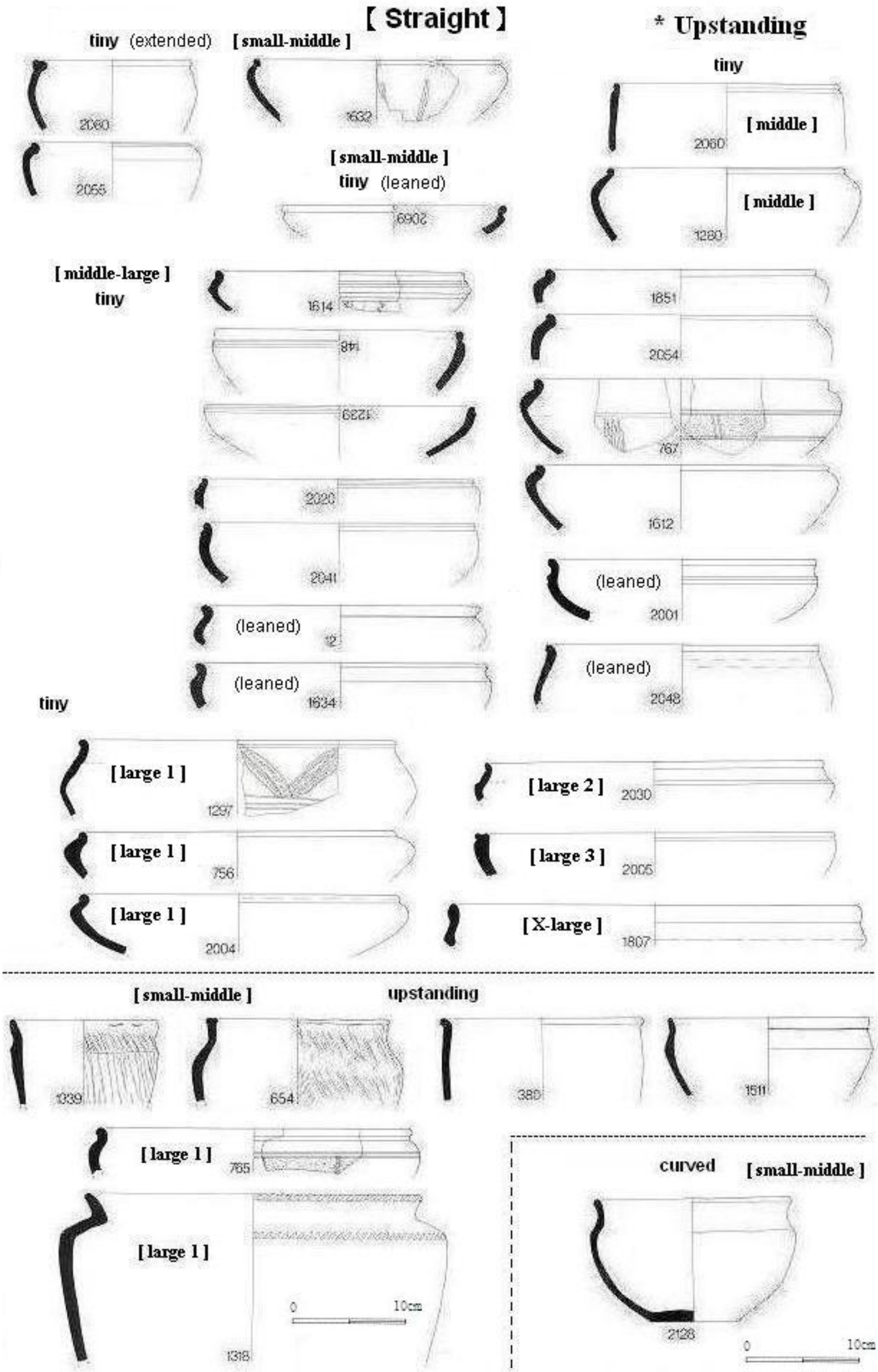


Fig. 5.37 The ' Straight ' types in category ⑩ (1)

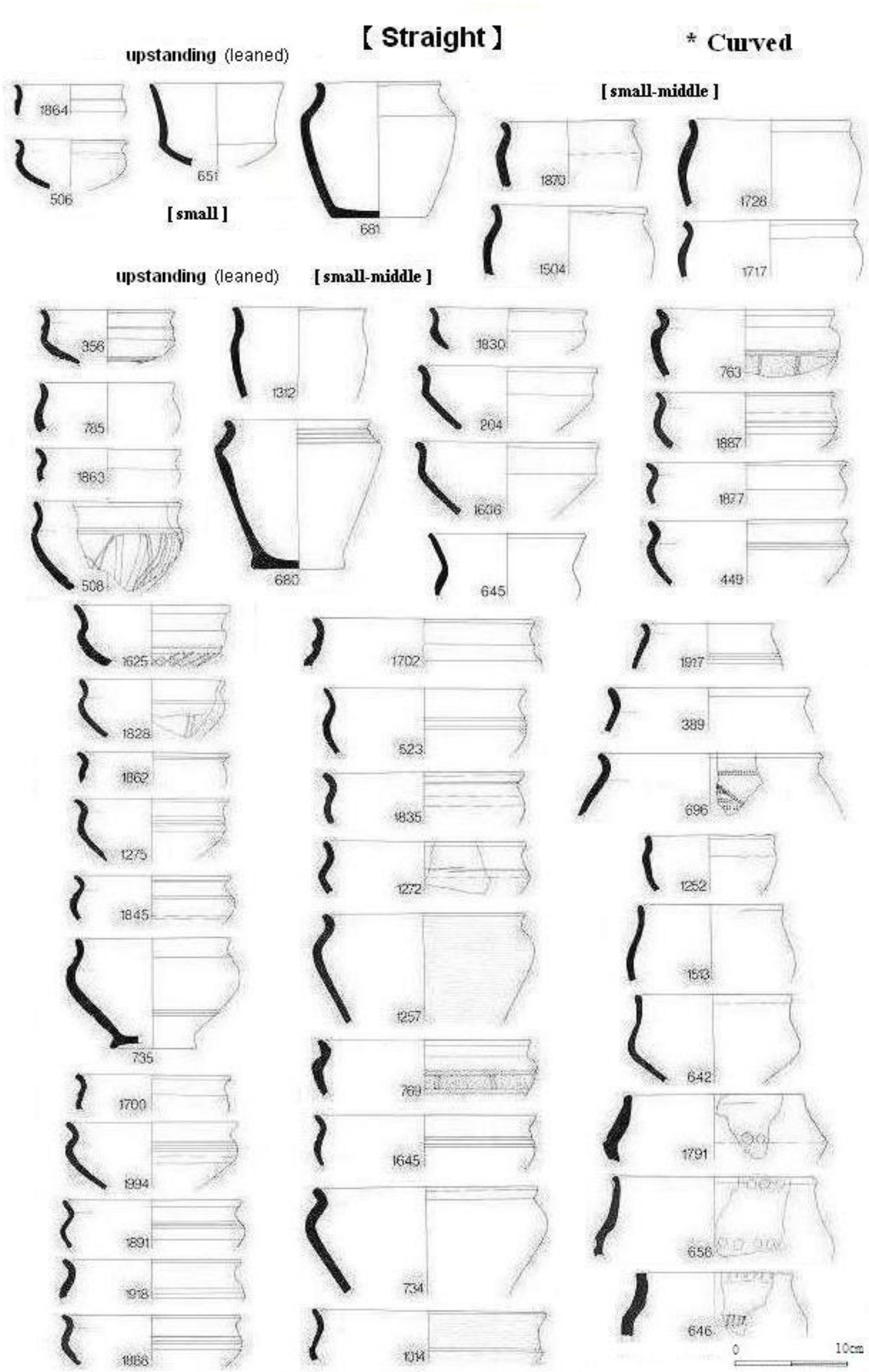


Fig. 5.38 The ' Straight ' types in category ⑩ (2)

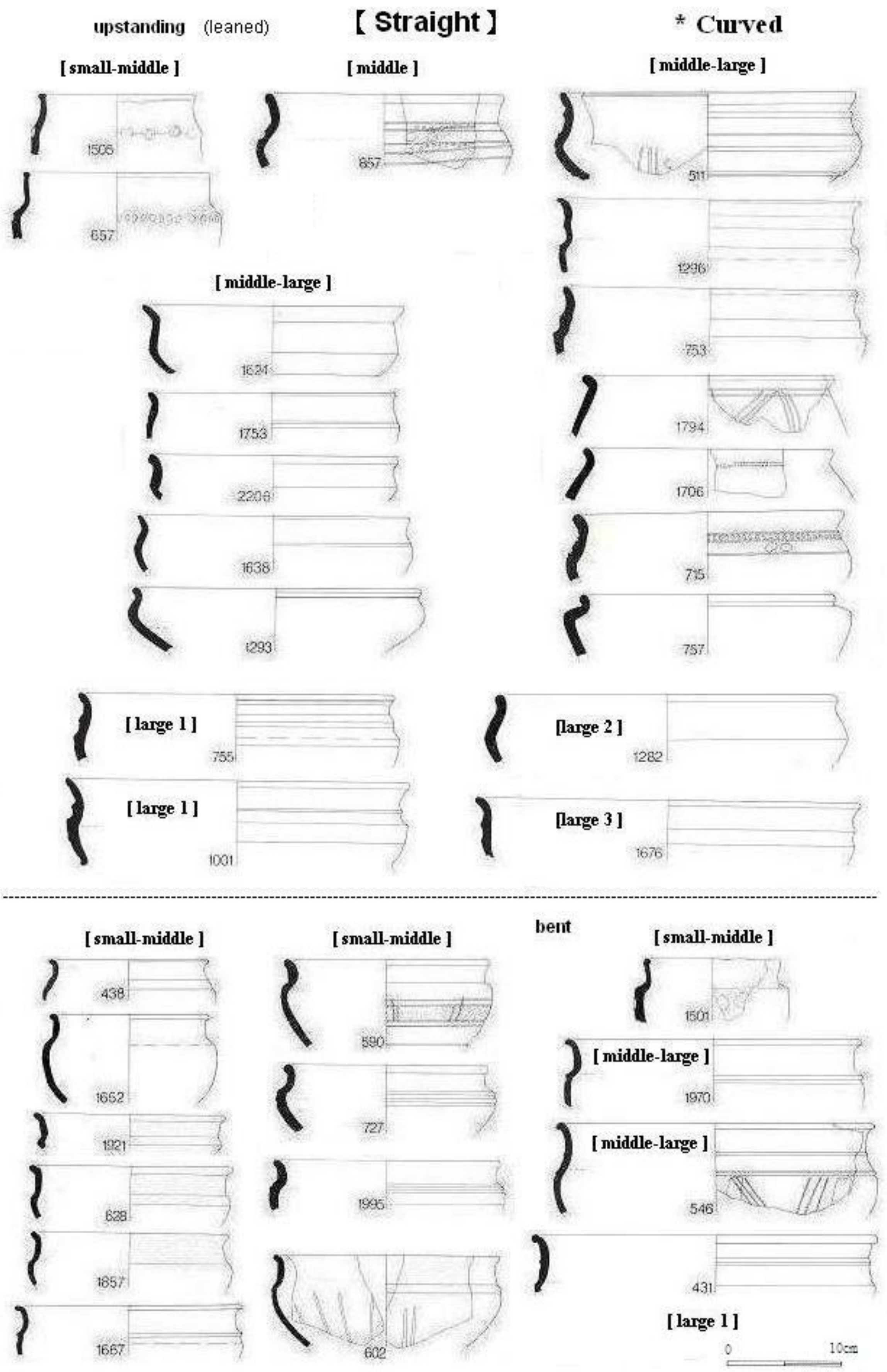


Fig. 5.39 The ' Straight ' types in category ⑩ (3)

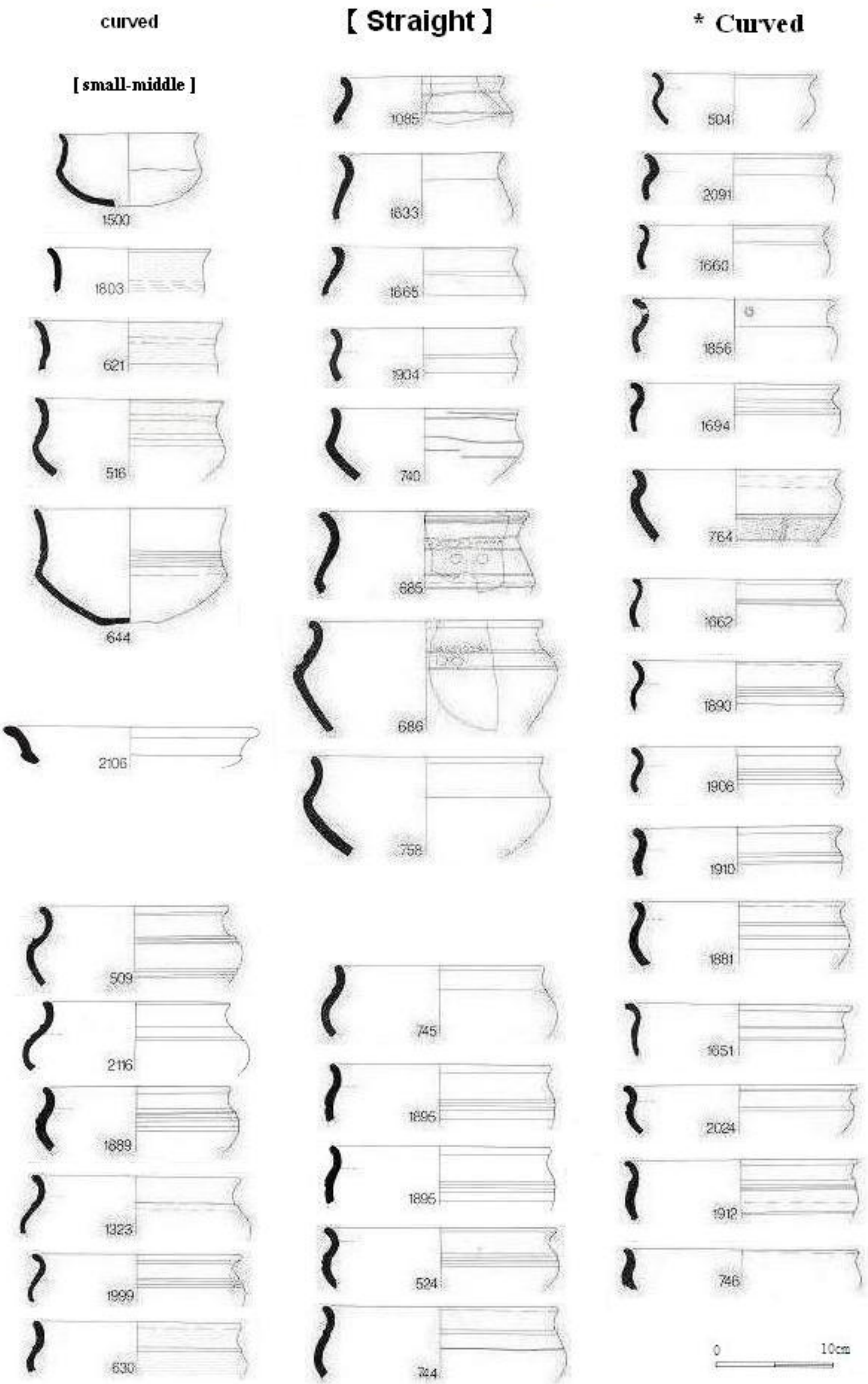


Fig. 5.40 The ' Straight ' types in category ⑩ (4)

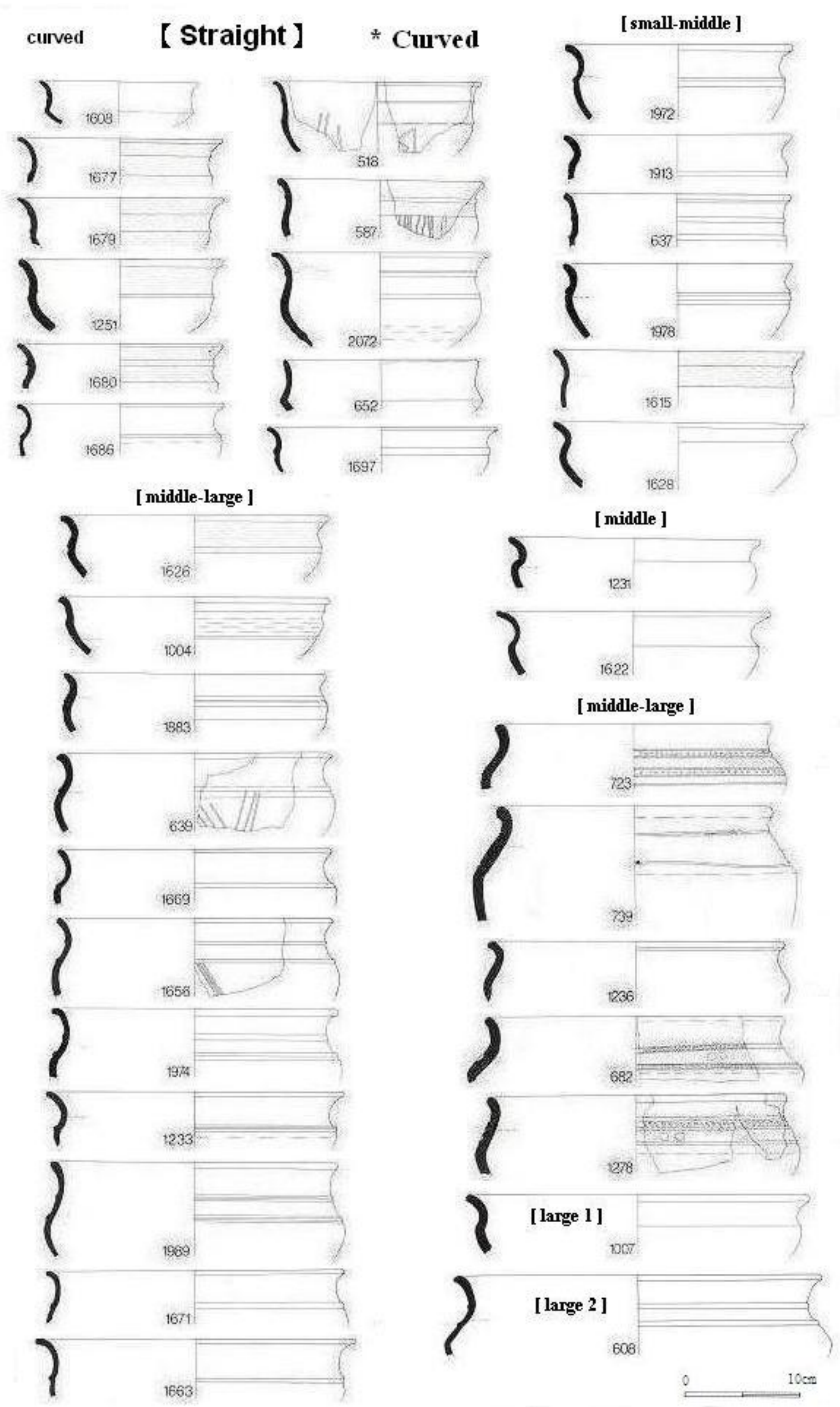


Fig. 5.41 The ' Straight ' types in category ⑩ (5)

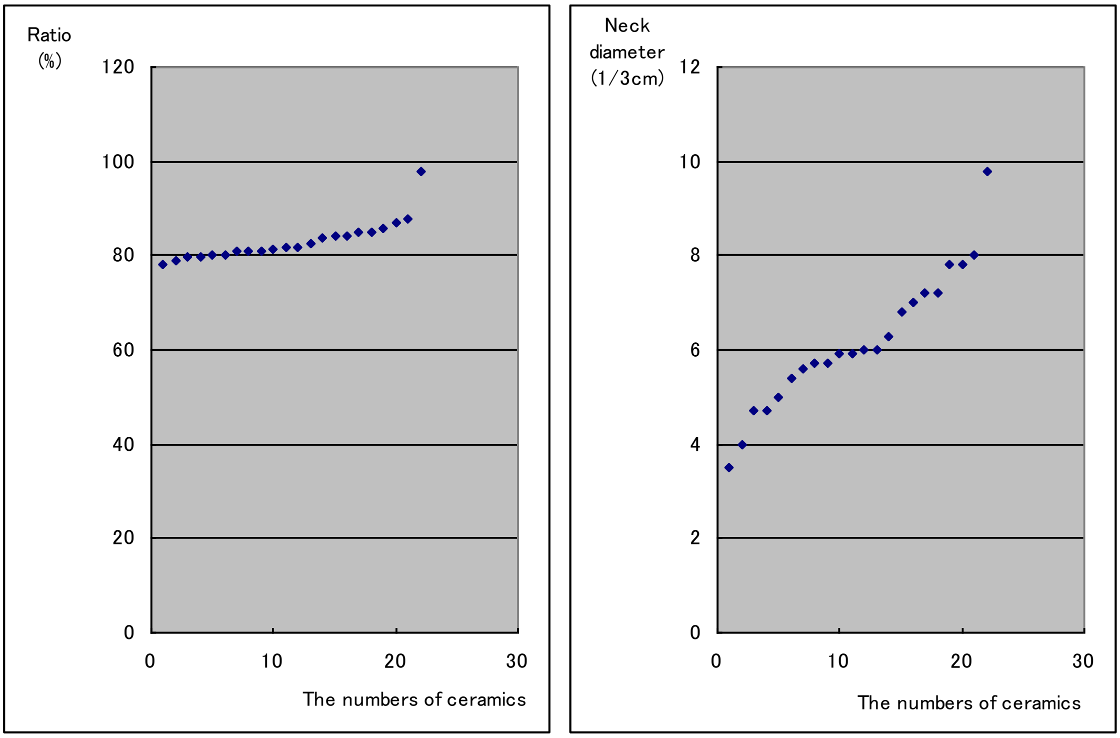


Fig. 5.42 (left) The ratio of neck diameters to max. diameters in the ' High-shouldered ' types

Fig. 5.43 (right) The neck diameters of ' High-shouldered ' types

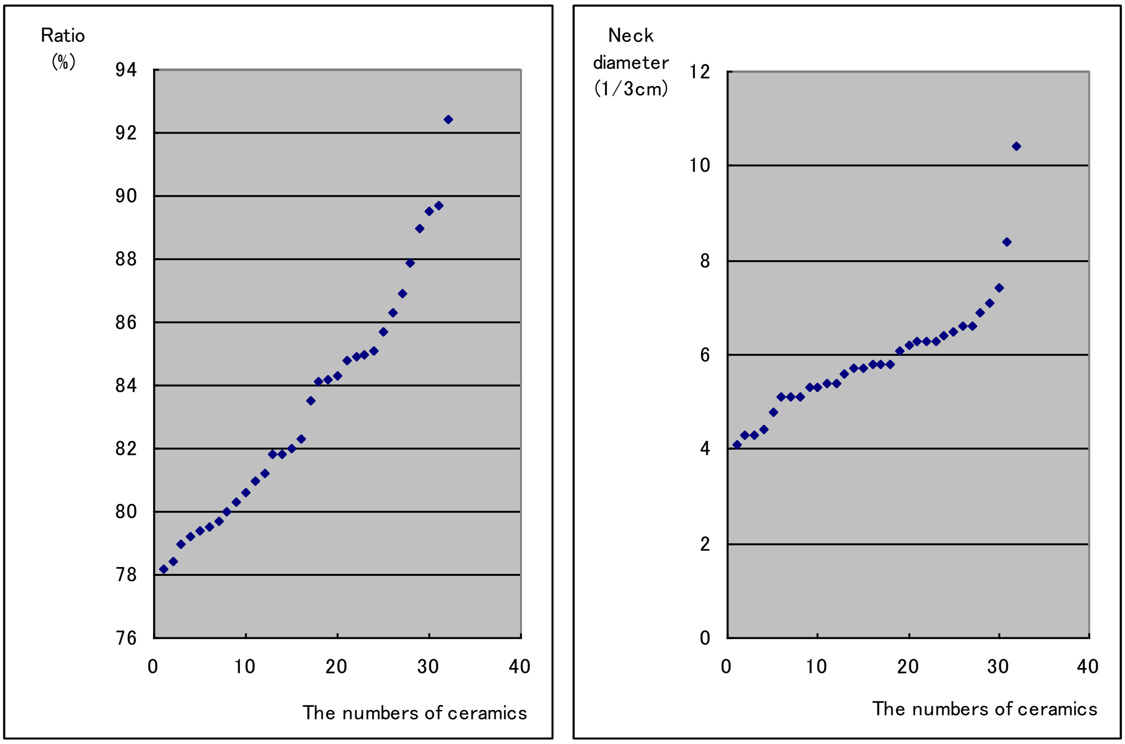


Fig. 5.44 (left) The ratio of neck diameters to max. diameters in the ' Curved ' types

Fig. 5.45 (right) The neck diameters of ' Curved ' types

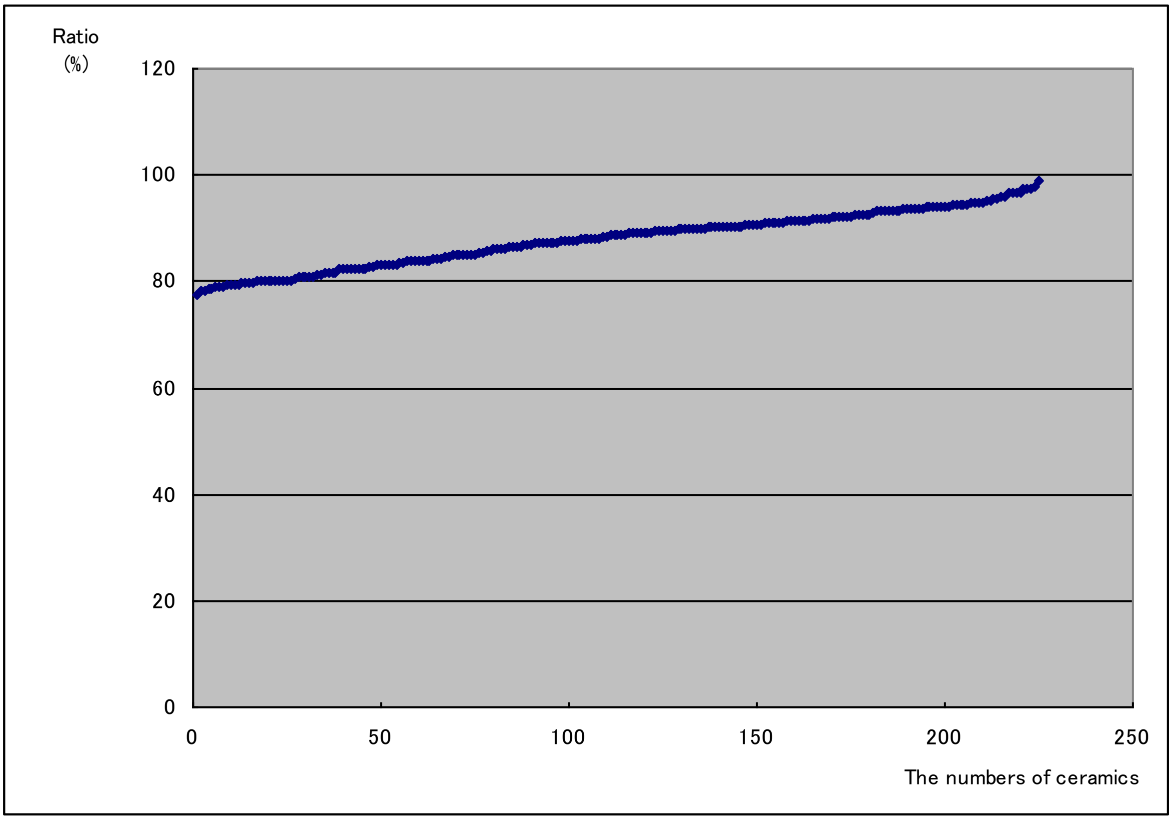


Fig. 5.46 The ratio of neck diameters to max. diameters in the ‘ Loosely Curved ’ types

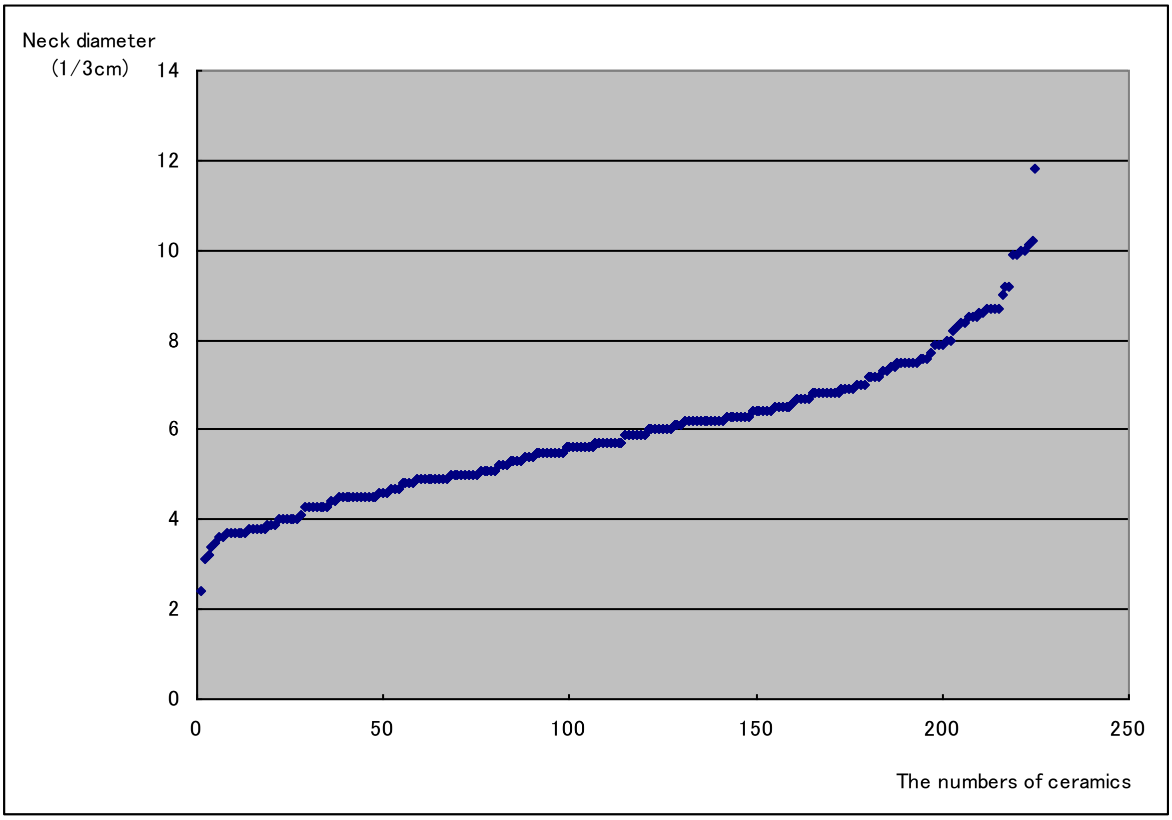


Fig. 5.47 The neck diameters of ‘ Loosely Curved ’ types

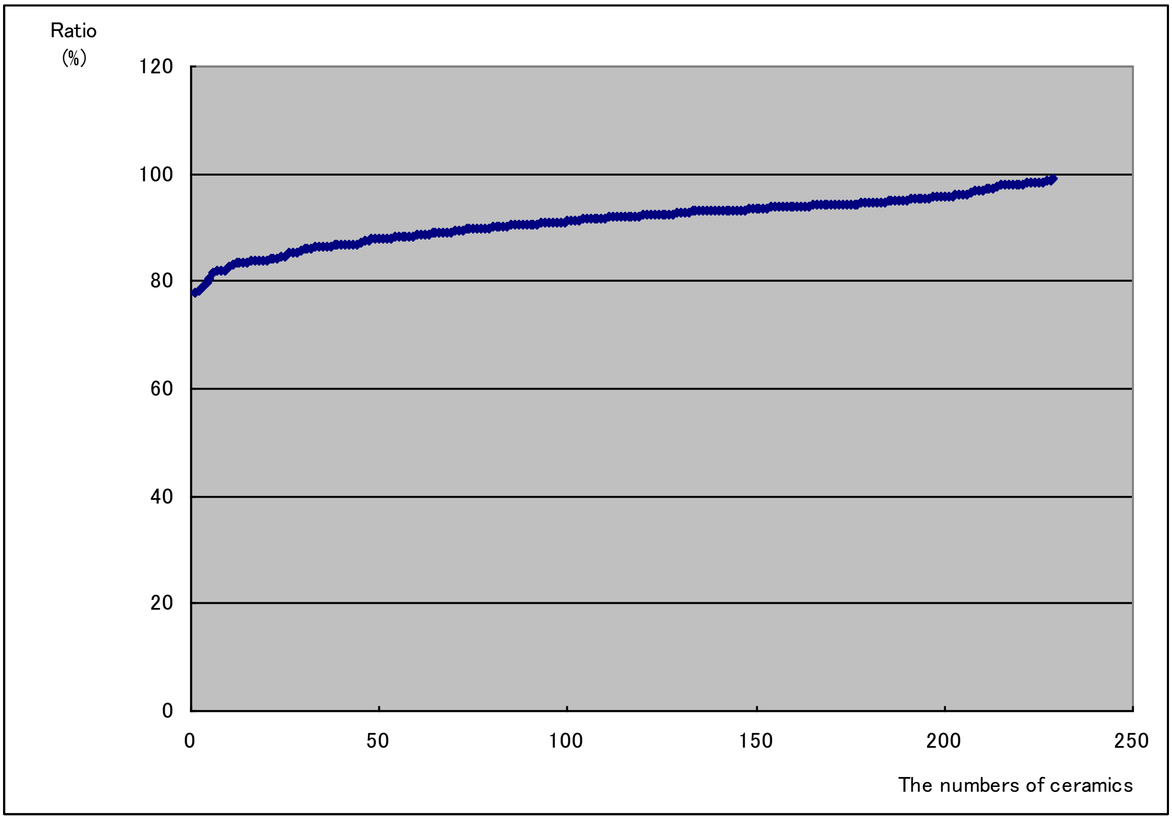


Fig. 5.48　The ratio of neck diameters to max. diameters in the ' Straight ' types

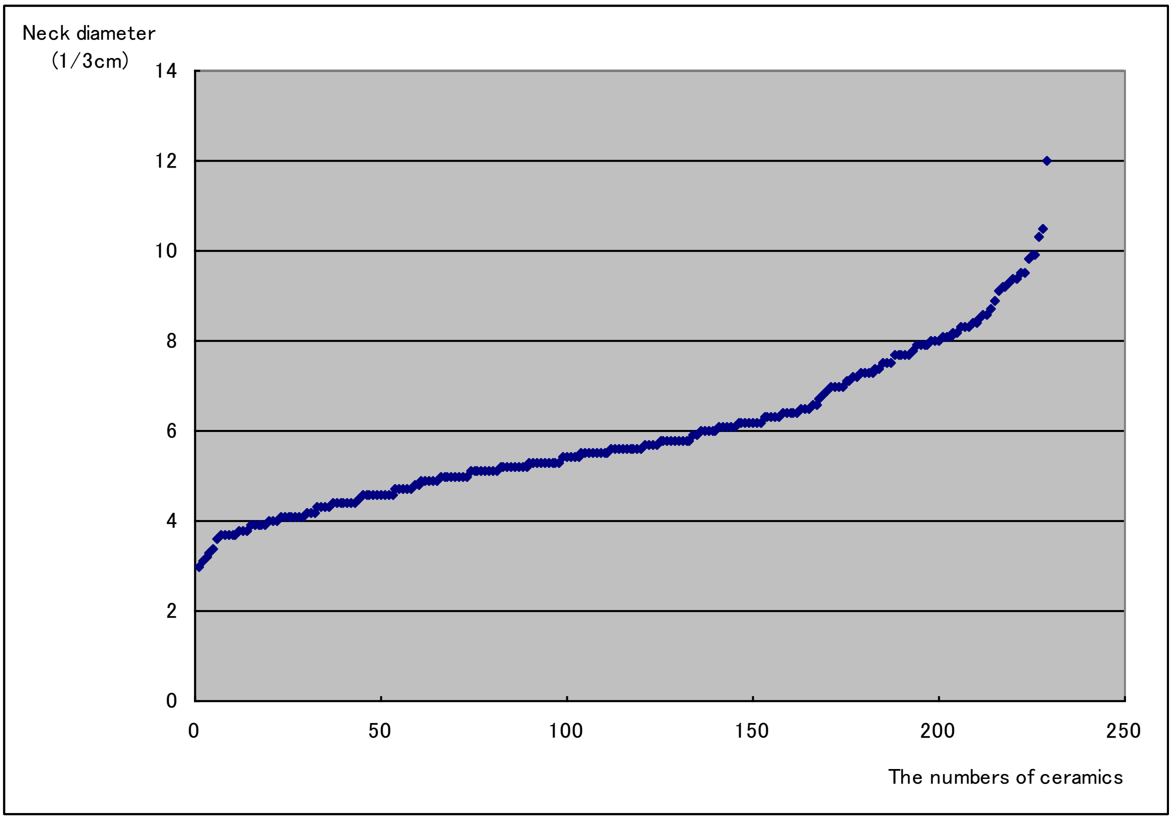


Fig. 5.49　The neck diameters of ' Straight ' types

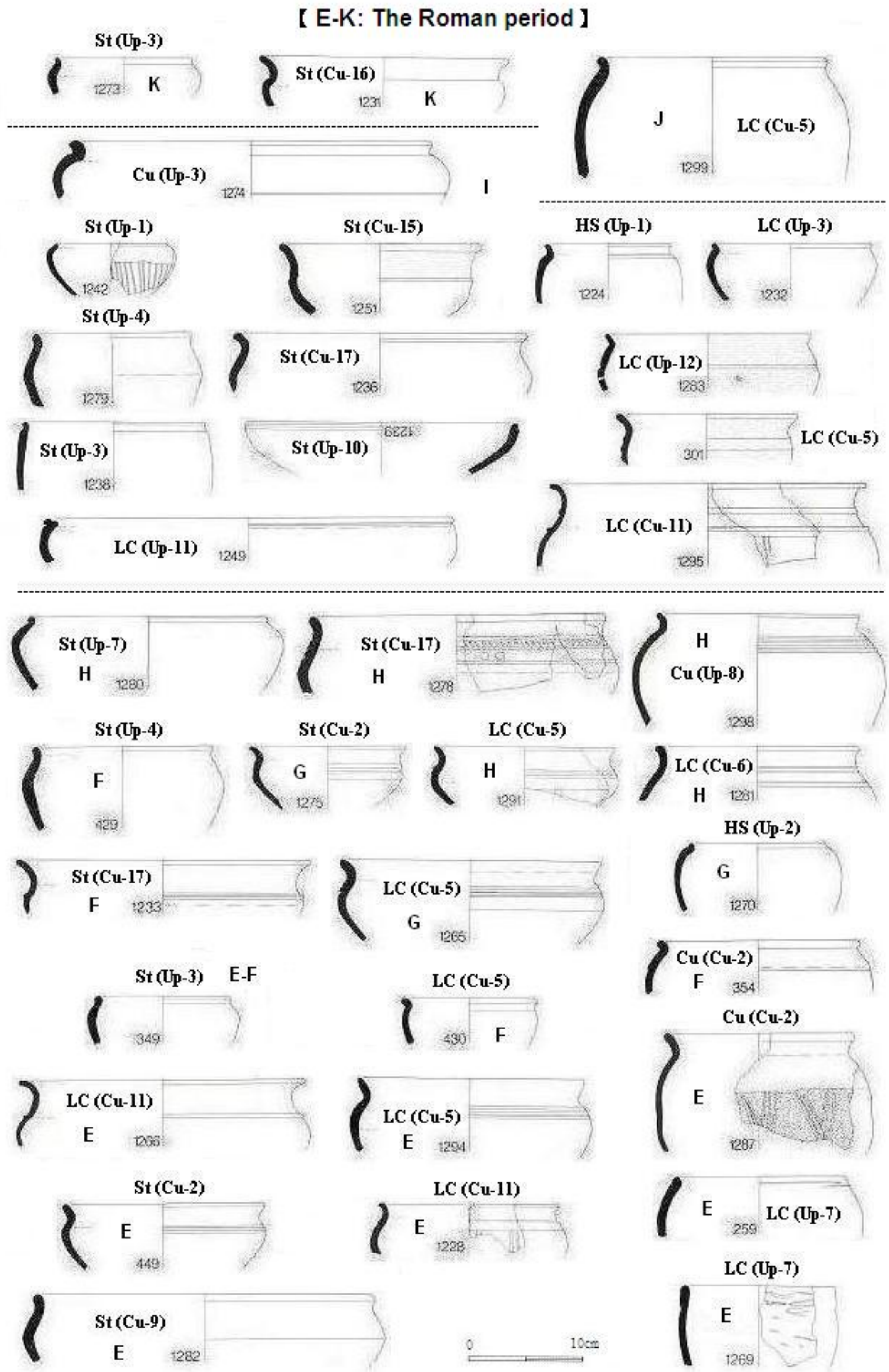


Fig. 5.50　　Ceramic types in categories ⑩ and ⑪ and these stratigraphic phases (1)

【 A-D: The Iron Age 】

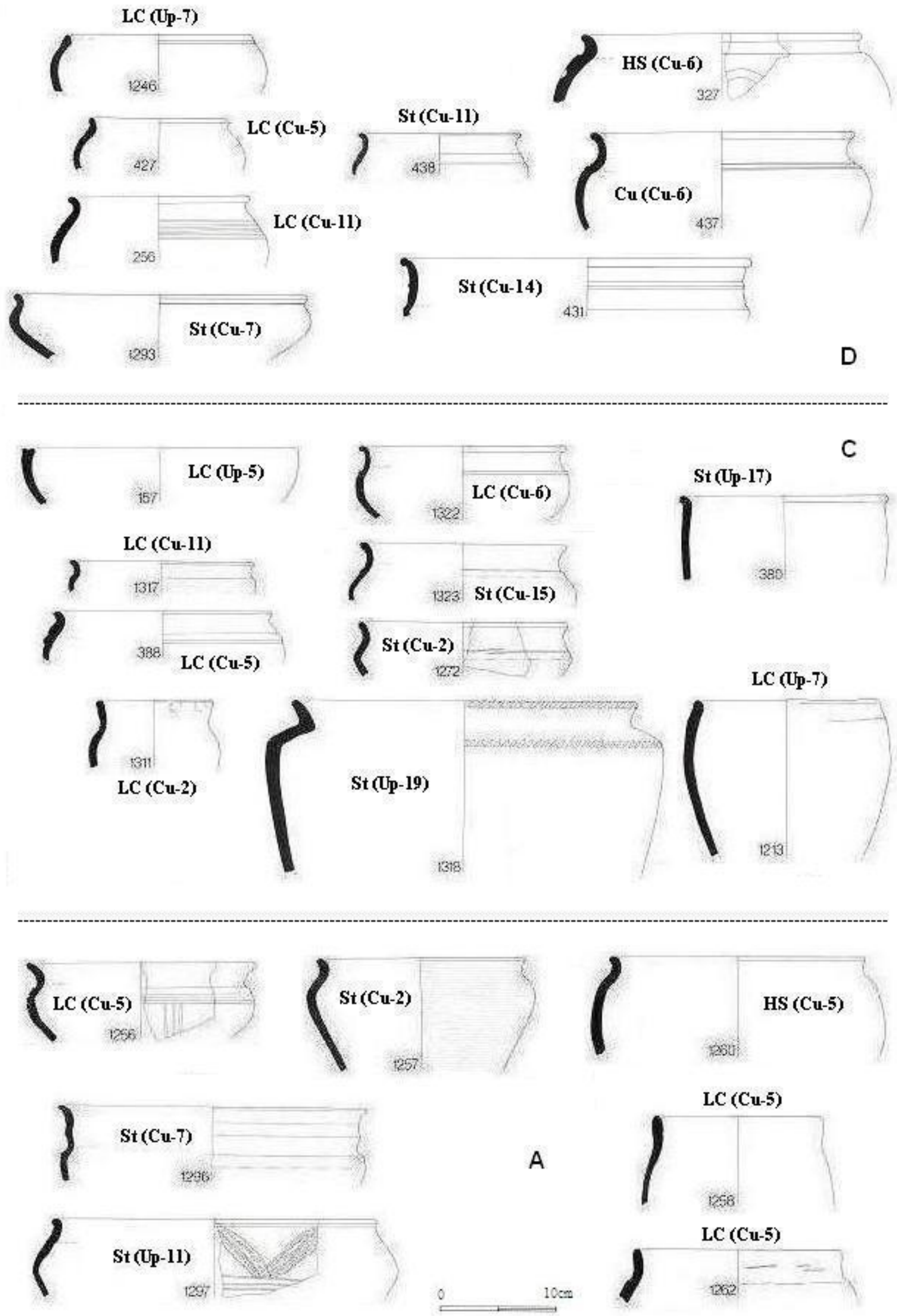


Fig. 5.51 Ceramic types in categories ⑩ and ⑪ and these stratigraphic phases (2)

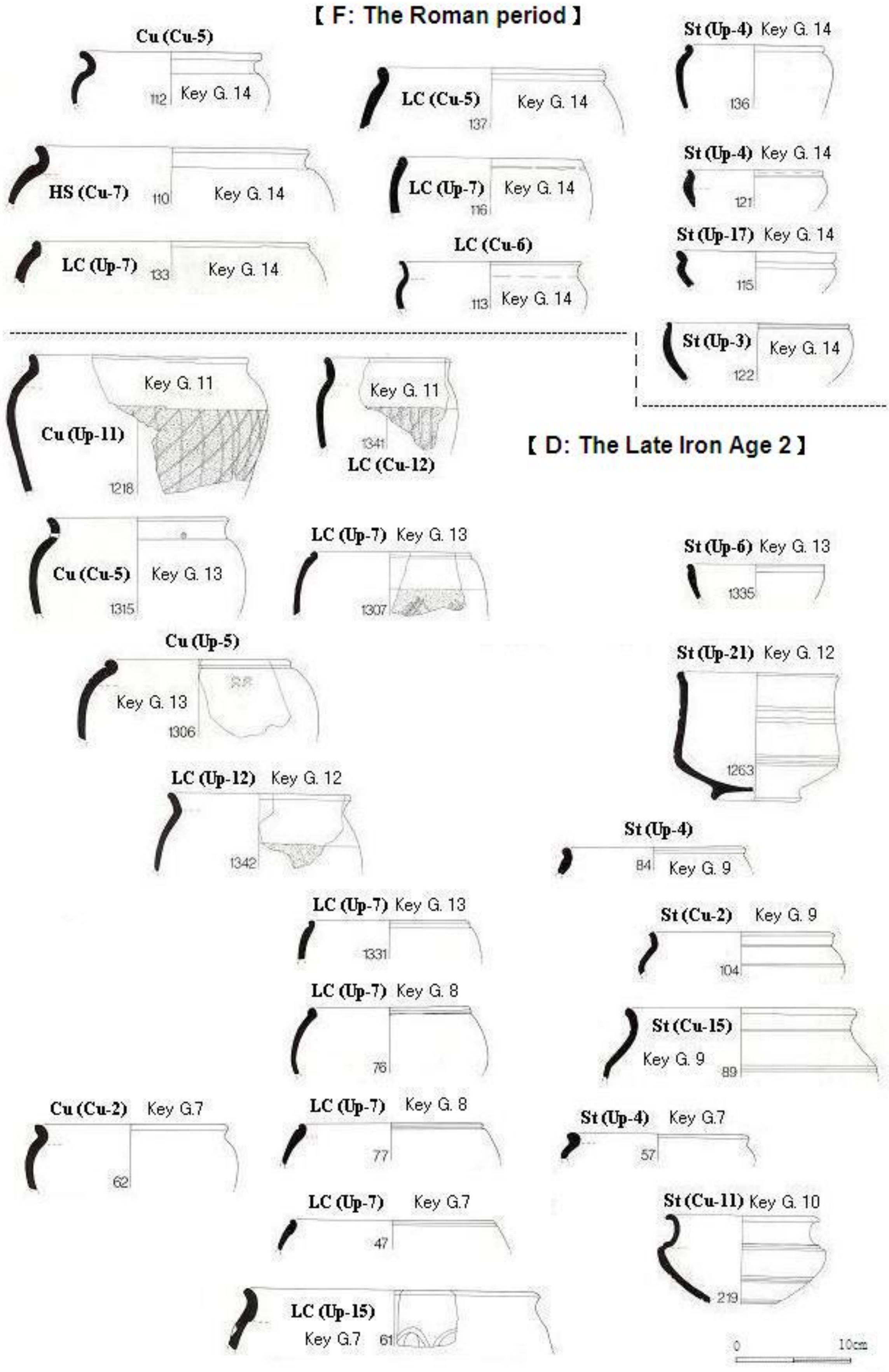


Fig. 5.52 Stratigraphic relations between ceramic types in well-stratified groups of categories ⑩ and ⑪ (1)

【 (A)-C: The Early to Late Iron Age 1 】

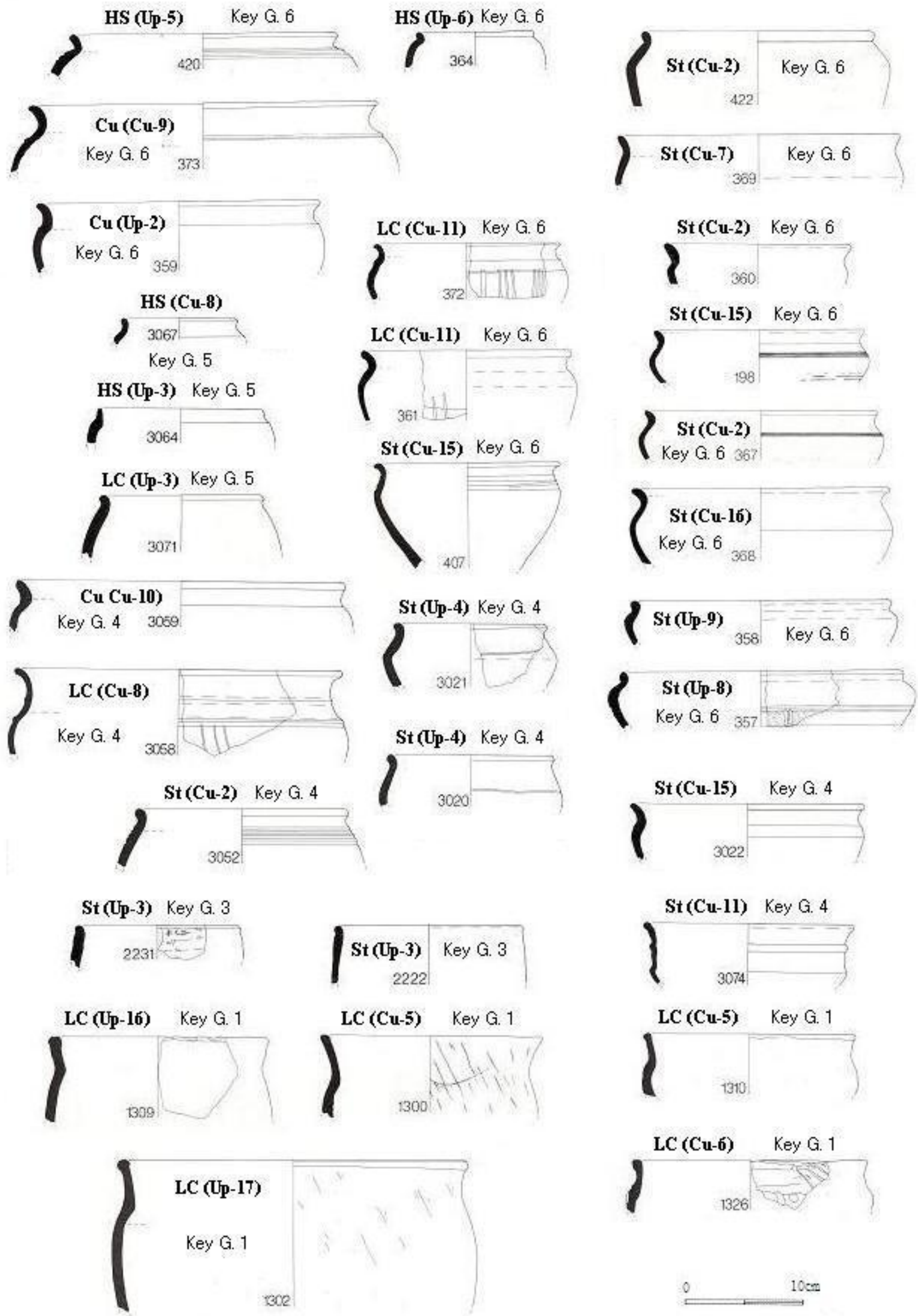


Fig. 5.53 Stratigraphic relations between ceramic types in well-stratified groups of categories ⑩ and ⑪ (2)

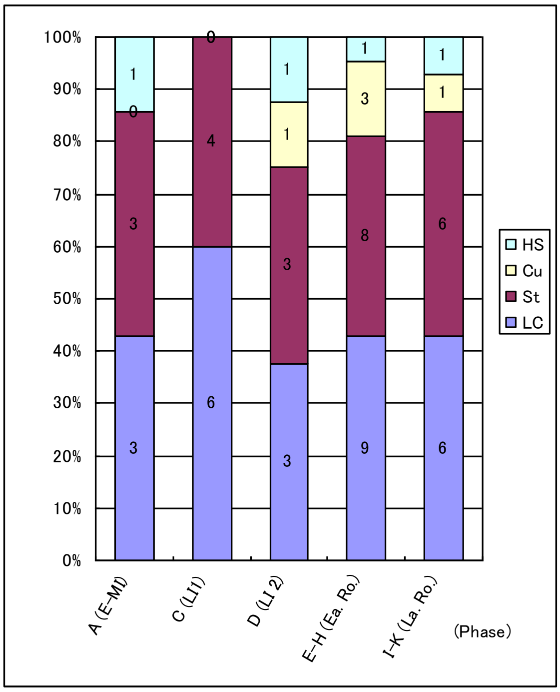


Fig. 5.54 The number of neck to rim types in each phase (categories ⑩ and ⑪)

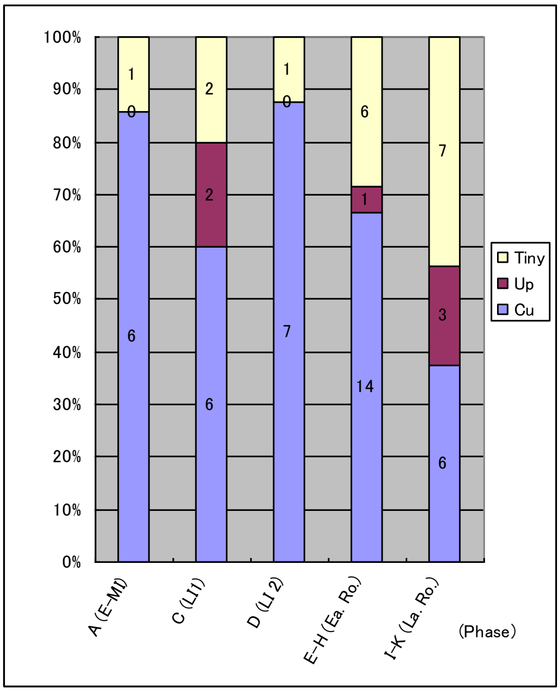


Fig. 5.55 The number of the upper body types in each phase (categories ⑩ to ⑪)

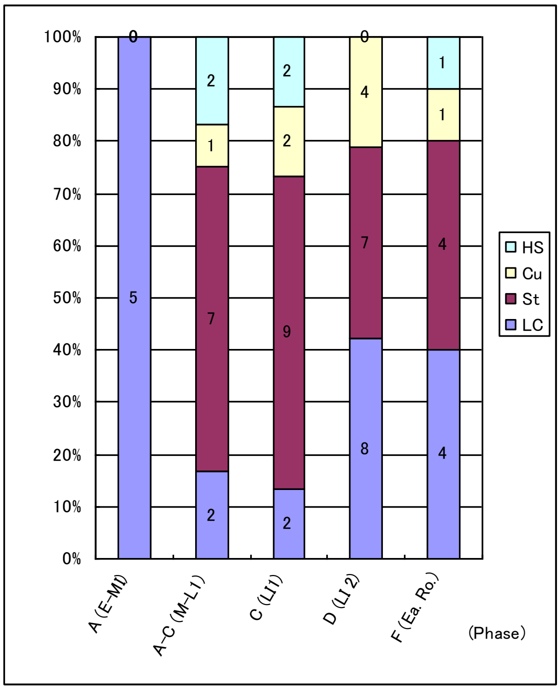


Fig. 5.56 The number of the neck to rim types in each phase (categories ⑩ and ⑪ in well-stratified groups)

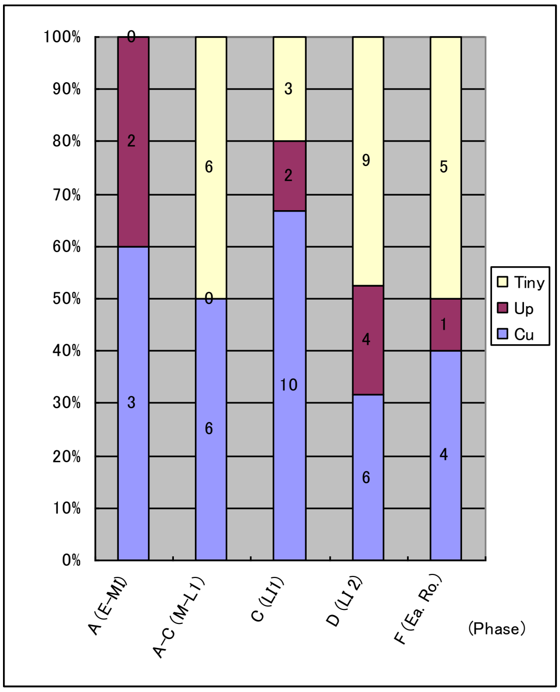


Fig. 5.57 The number of the upper body types in each phase (categories ⑩ and ⑪ in well-stratified groups)

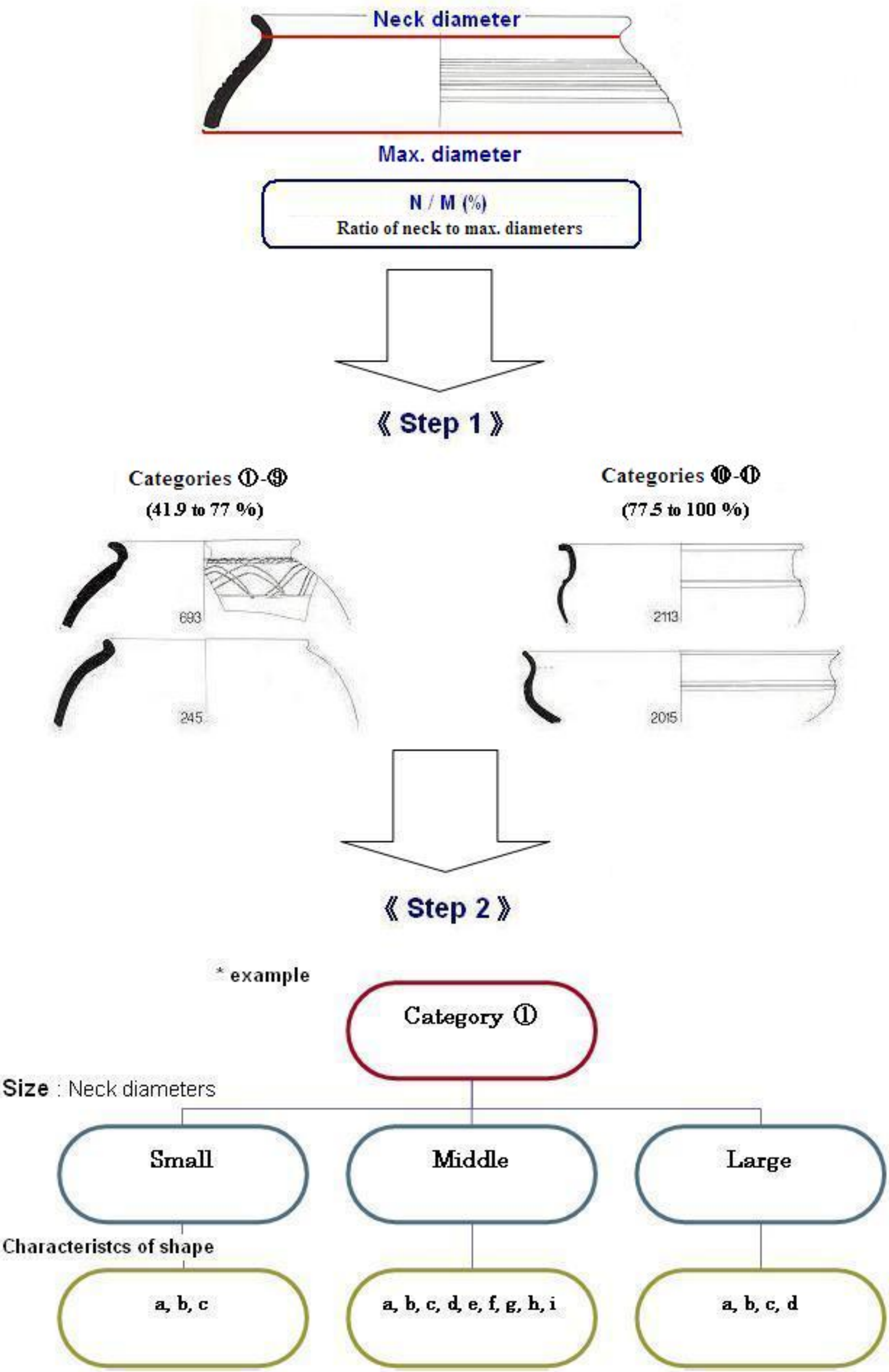


Fig. 5.58 Method 1 for typological classification of Iron Age vessels (1)

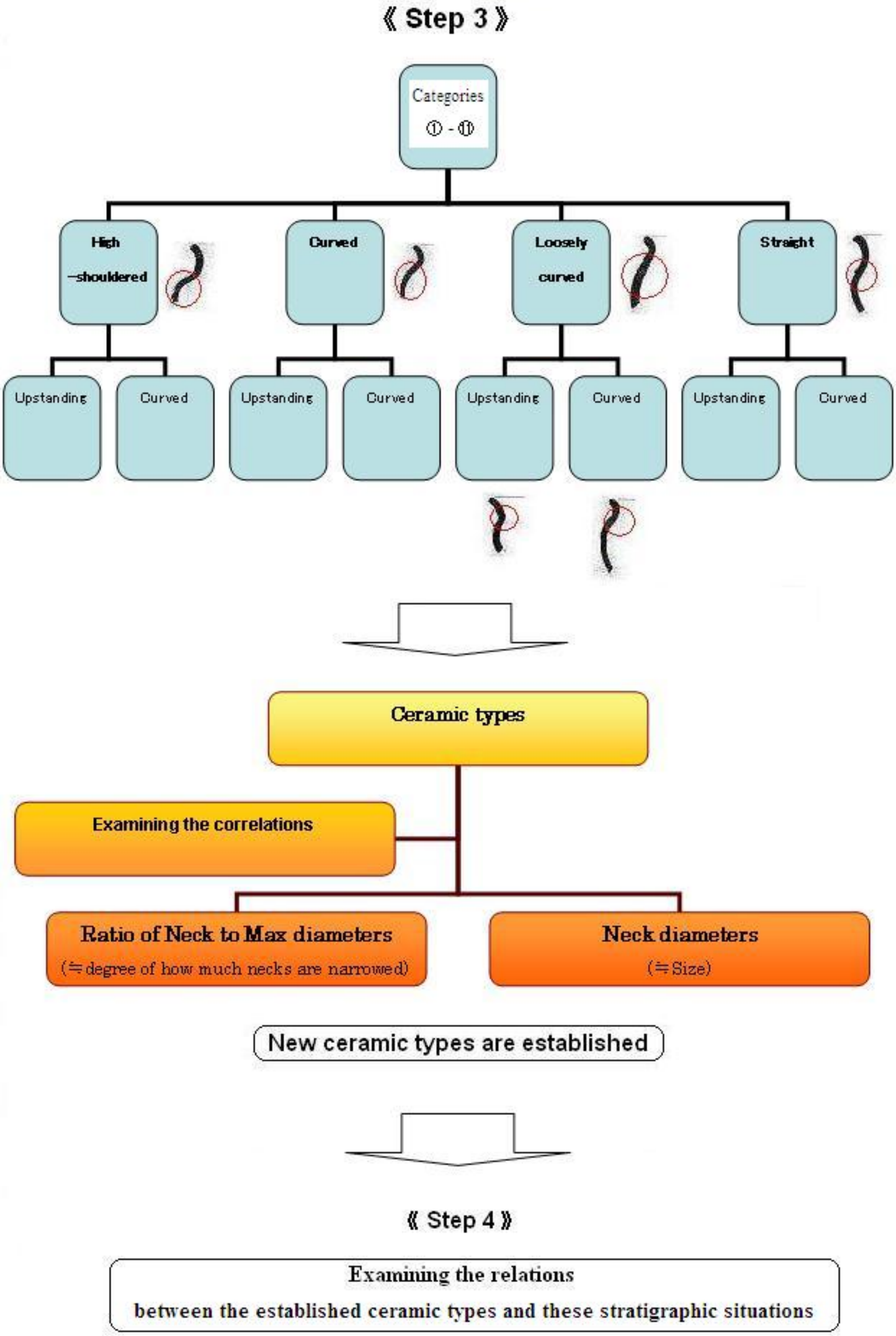


Fig. 5.59 Method 1 for typological classification of Iron Age vessels (2)

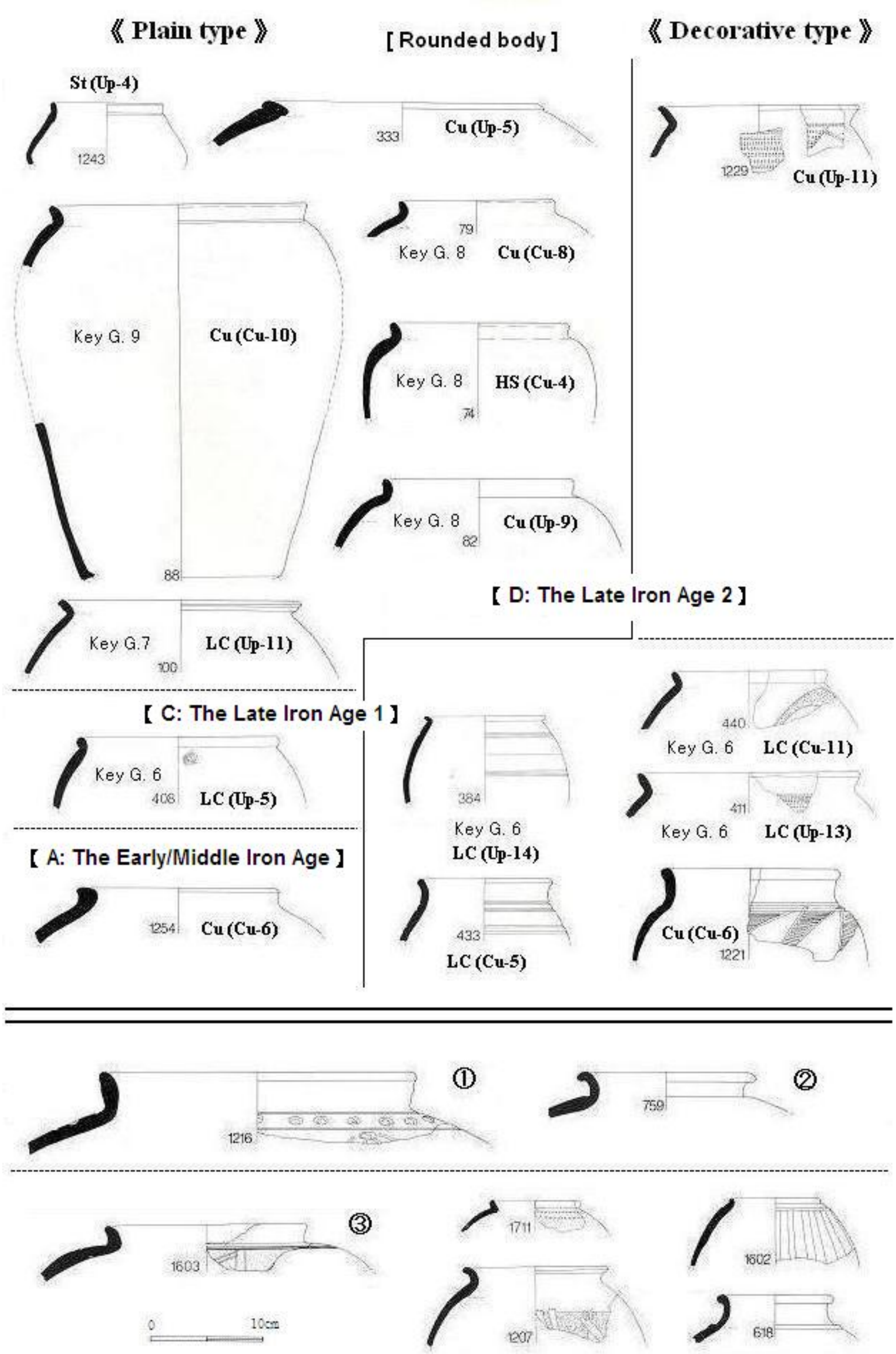


Fig. 5.60 Typological classification of stratified vessels in categories ④ to ⑨(above) and all the vessels in ① to ③ (below)

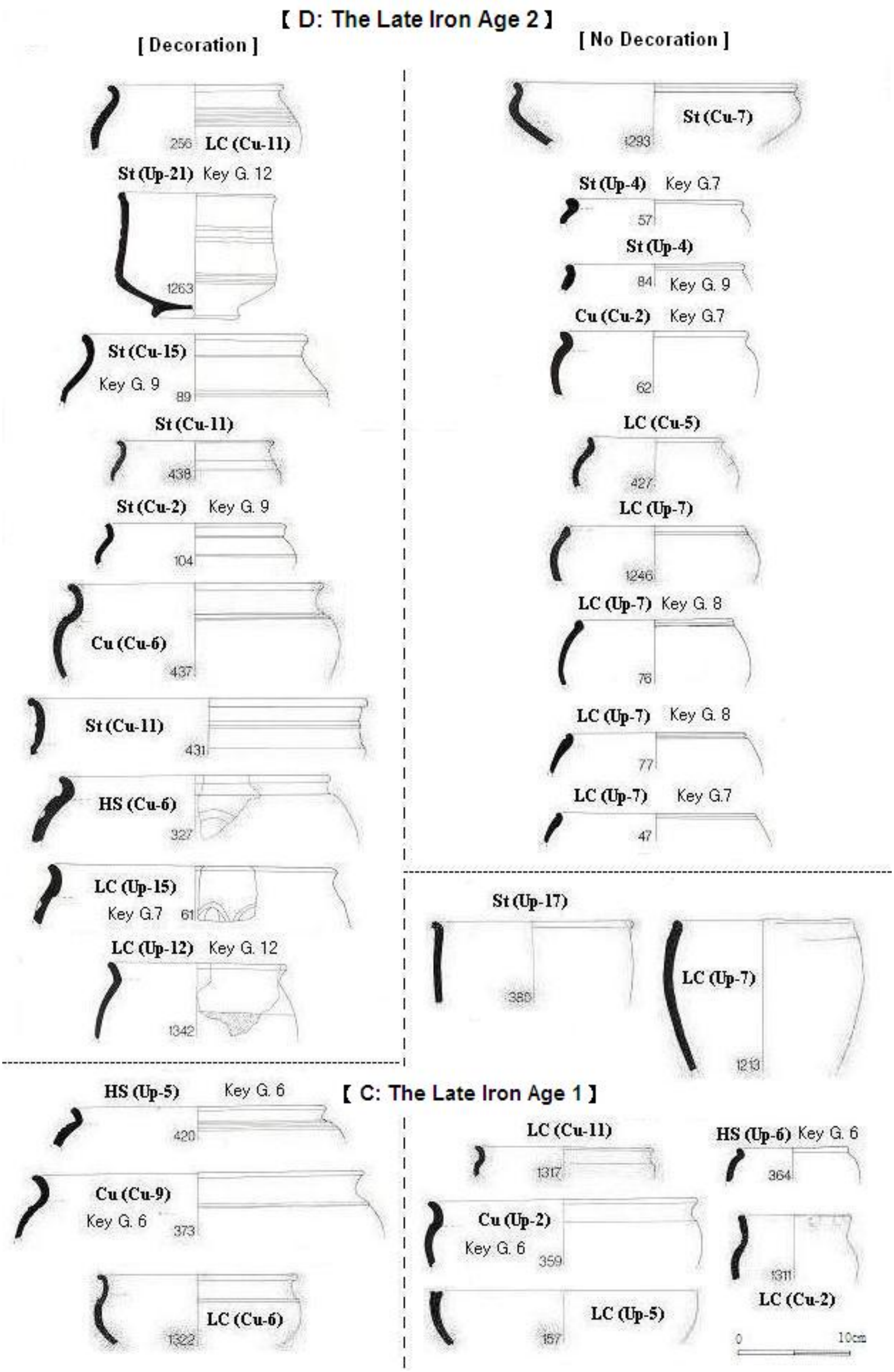


Fig. 5.61 The vessels of categories ⑩ and ⑪ in stratified Iron Age ceramics from Hengistbury Head (1)

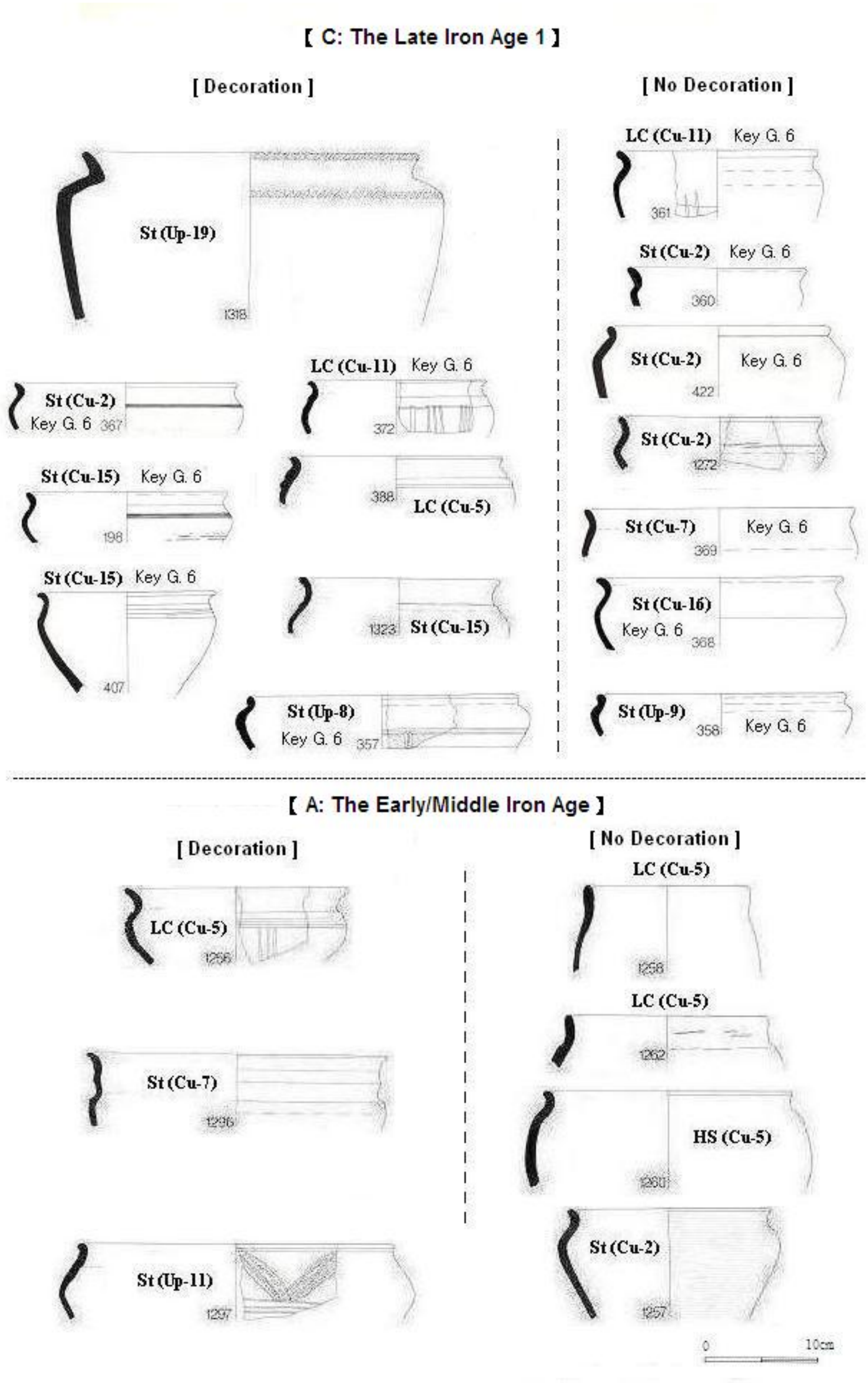


Fig. 5.62 The vessels of categories ⑩ and ⑪ in stratified Iron Age ceramics from Hengistbury Head (2)

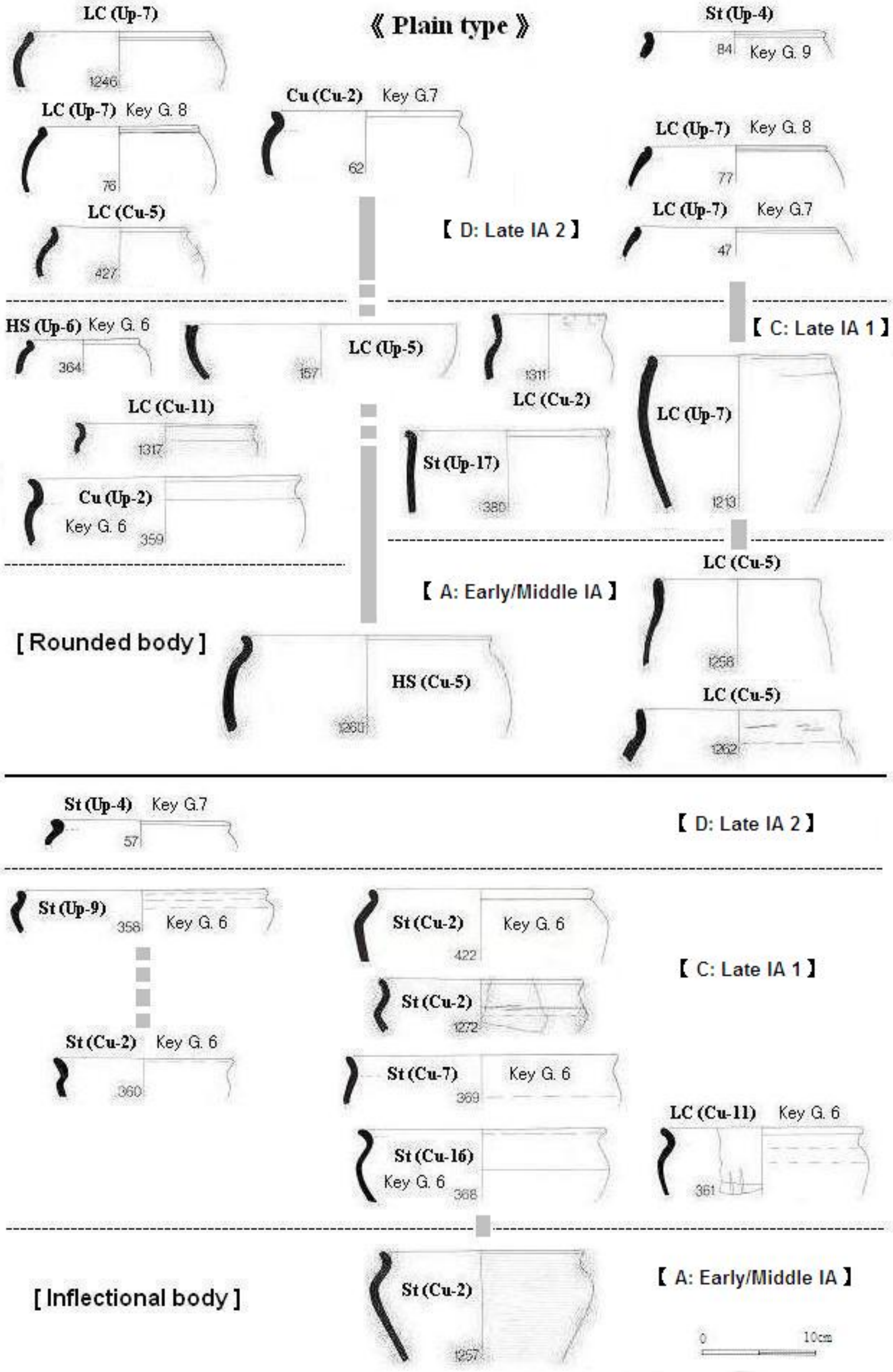


Fig. 5.63 The Plain type vessels of category ⑩ and ⑪ in stratified Iron Age ceramics from Hengistbury Head

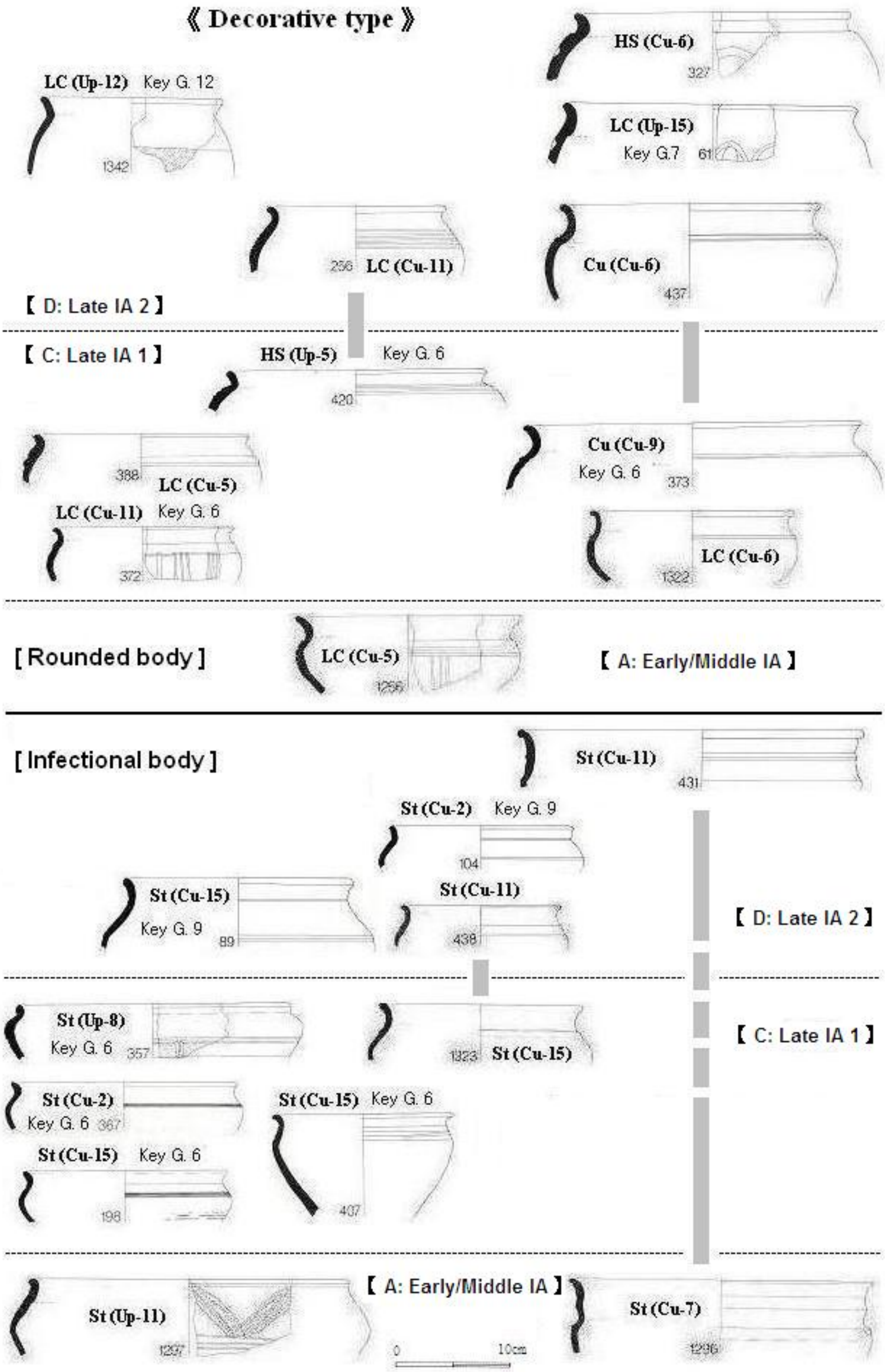


Fig. 5.64 The Decorative type vessels of category ⑩ and ⑪ in stratified Iron Age ceramics from Hengistbury Head

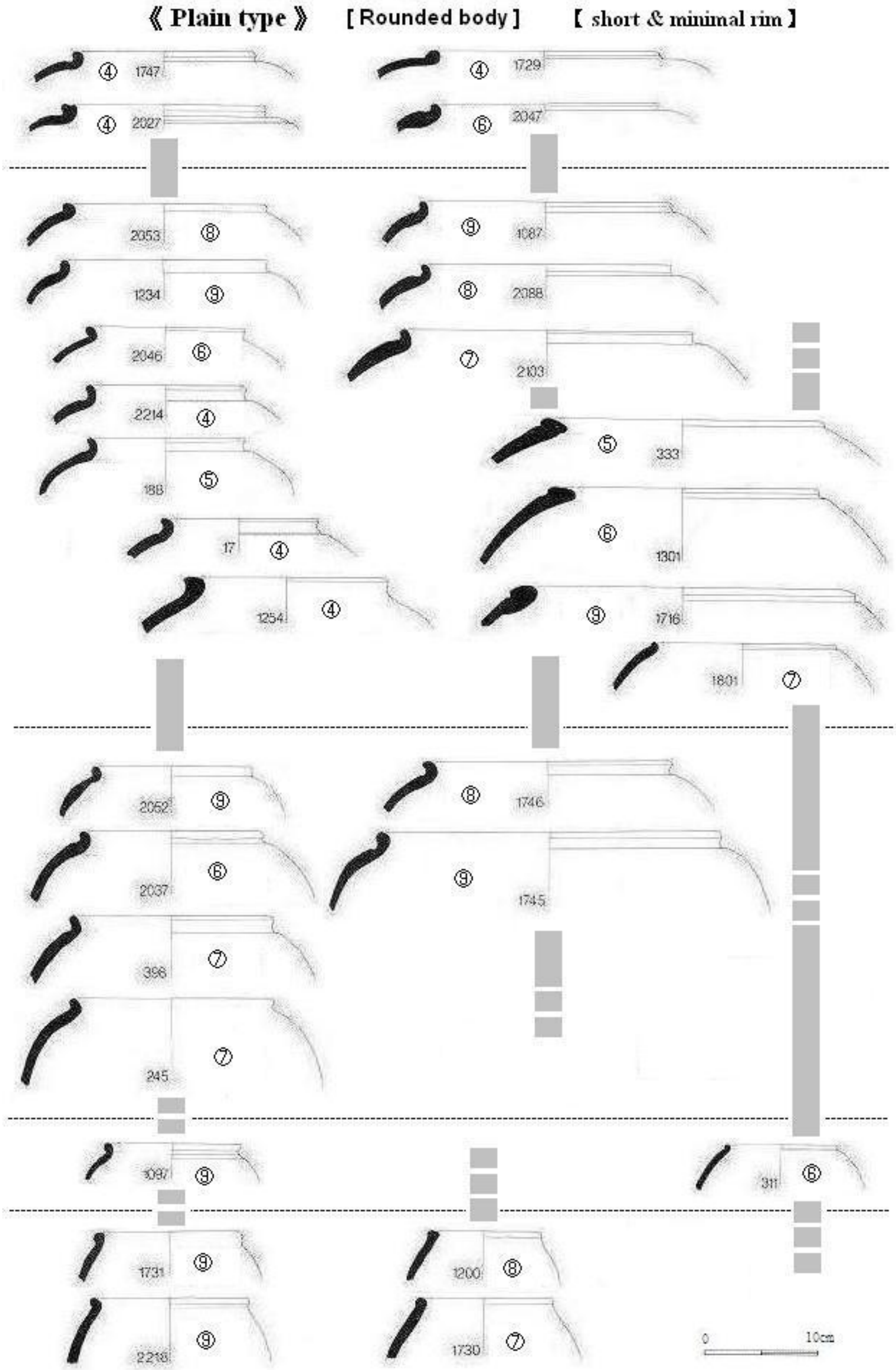


Fig. 5.65 Typological classification of ceramics in categories ④ to ⑨ (1)

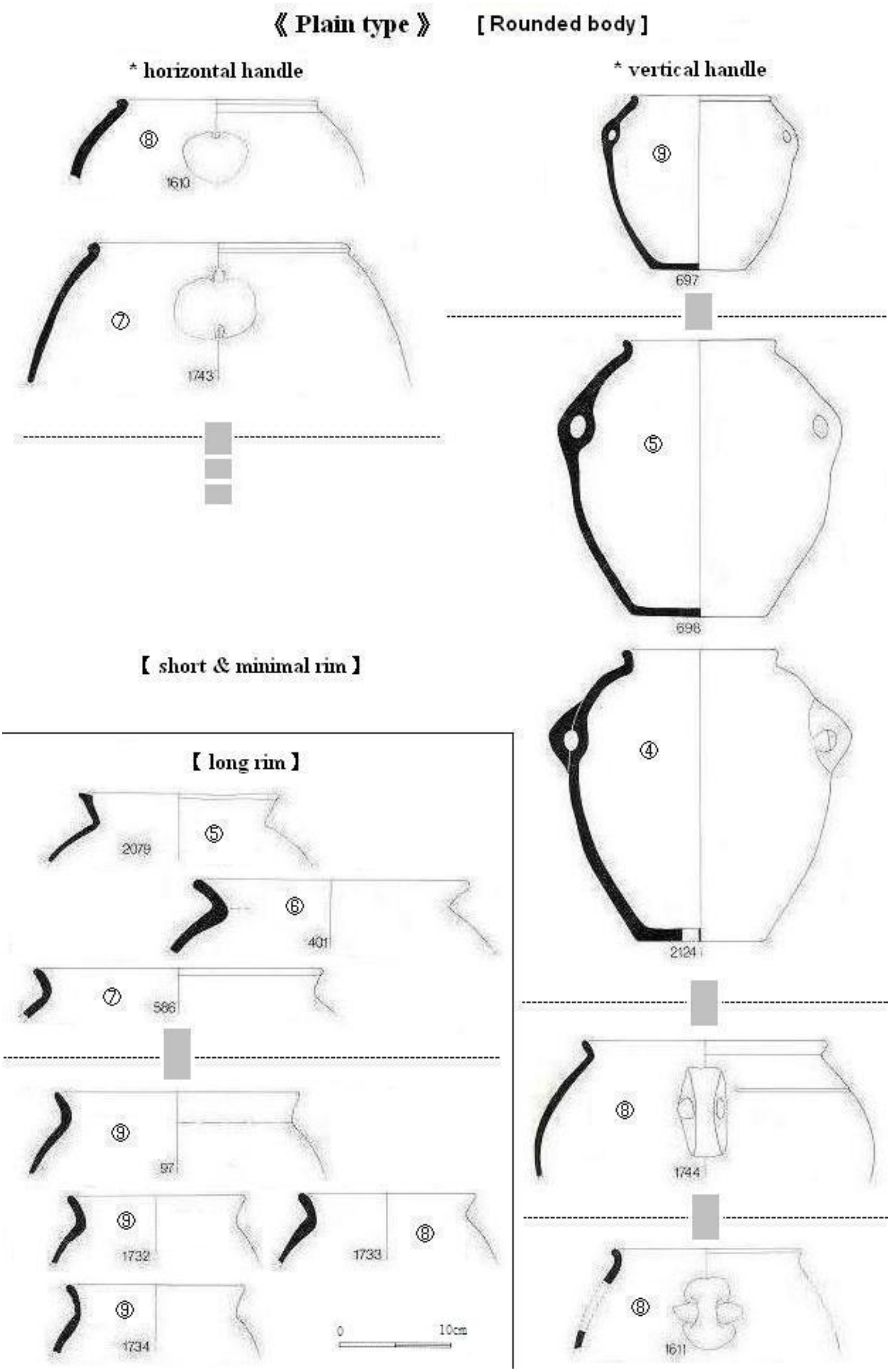


Fig. 5.66 Typological classification of ceramics in categories ④ to ⑨ (2)

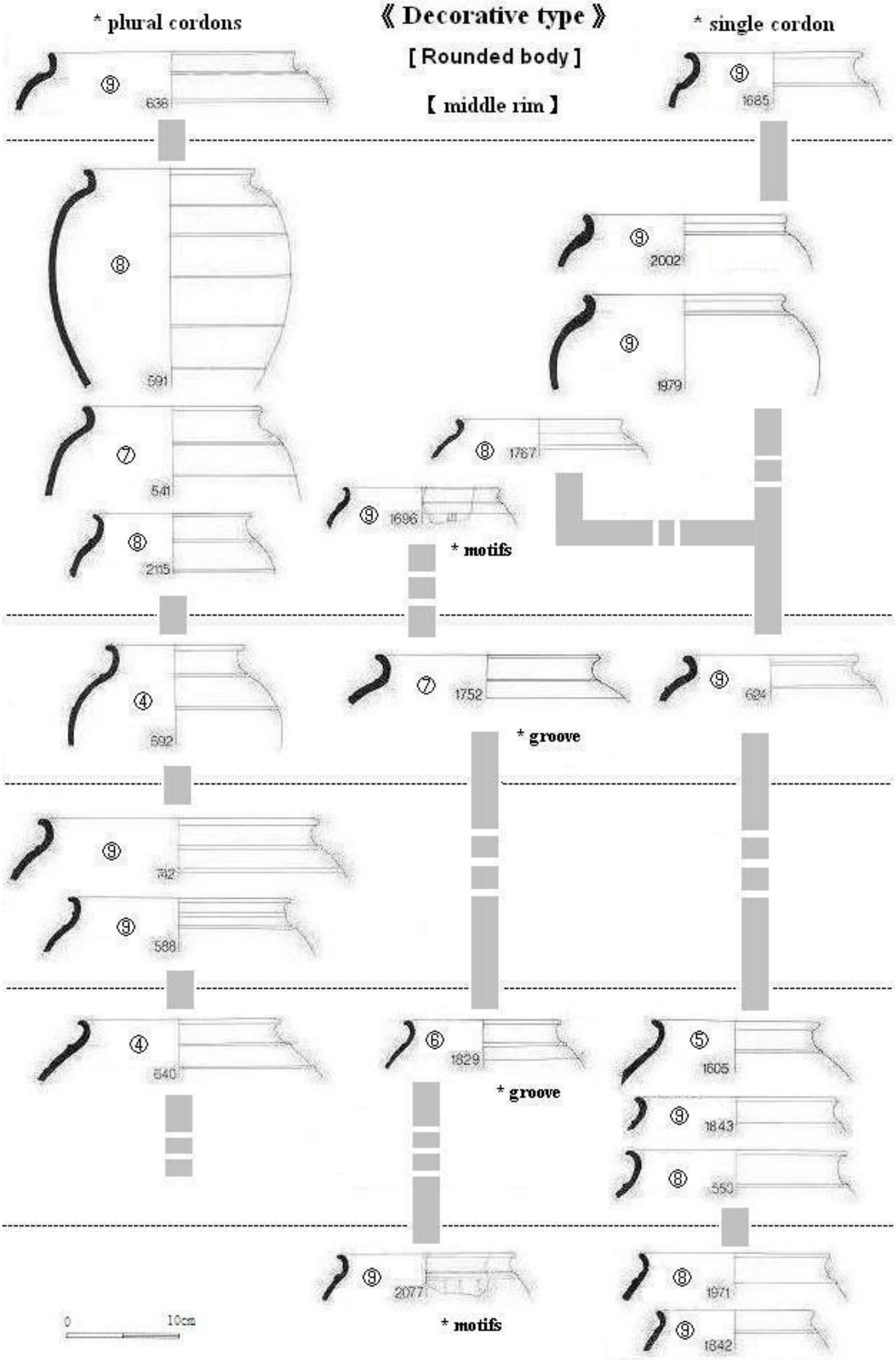


Fig. 5.67 Typological classification of ceramics in categories ④ to ⑨ (3)

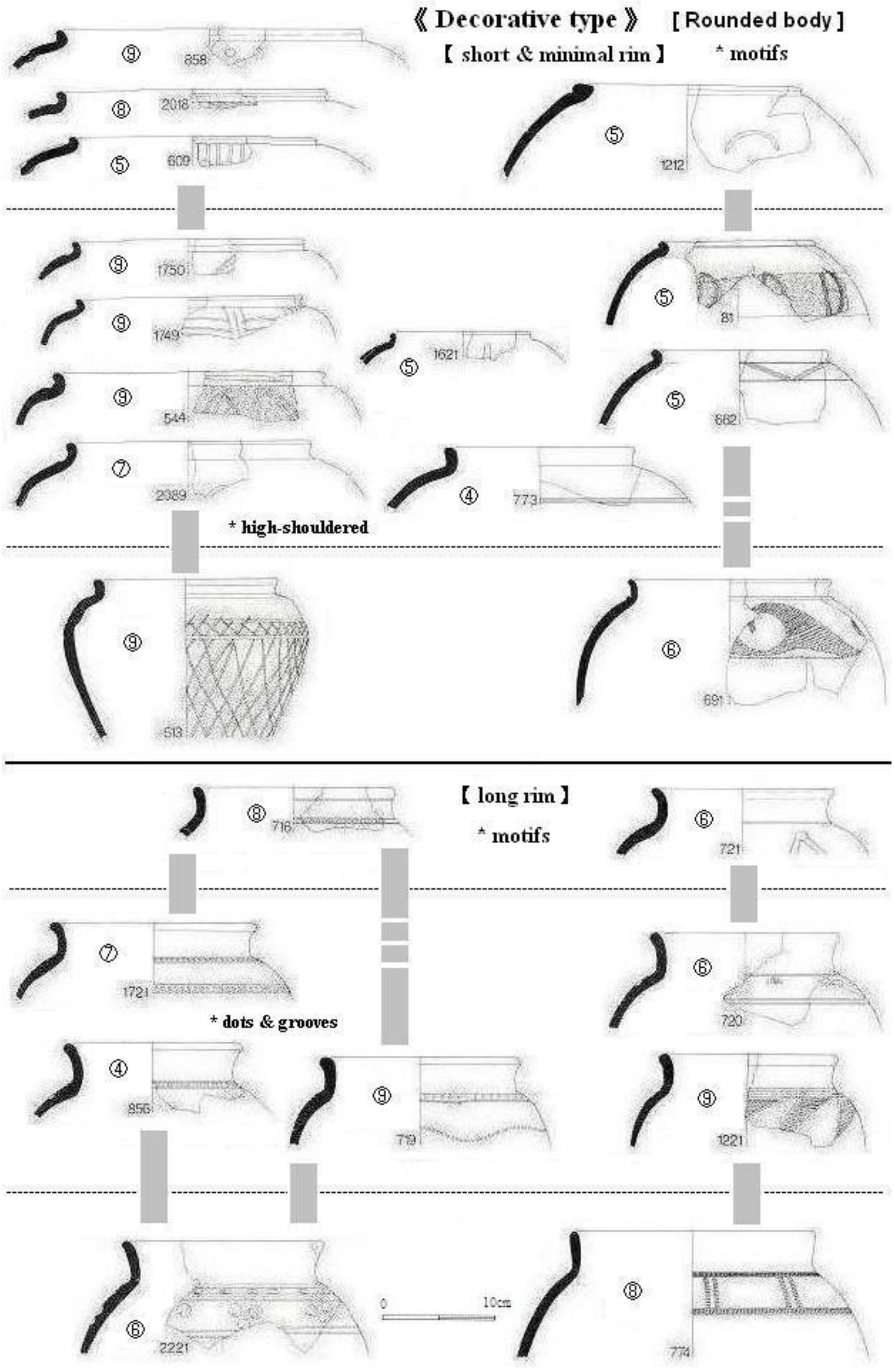


Fig. 5.68 Typological classification of ceramics in categories ④ to ⑨ (4)

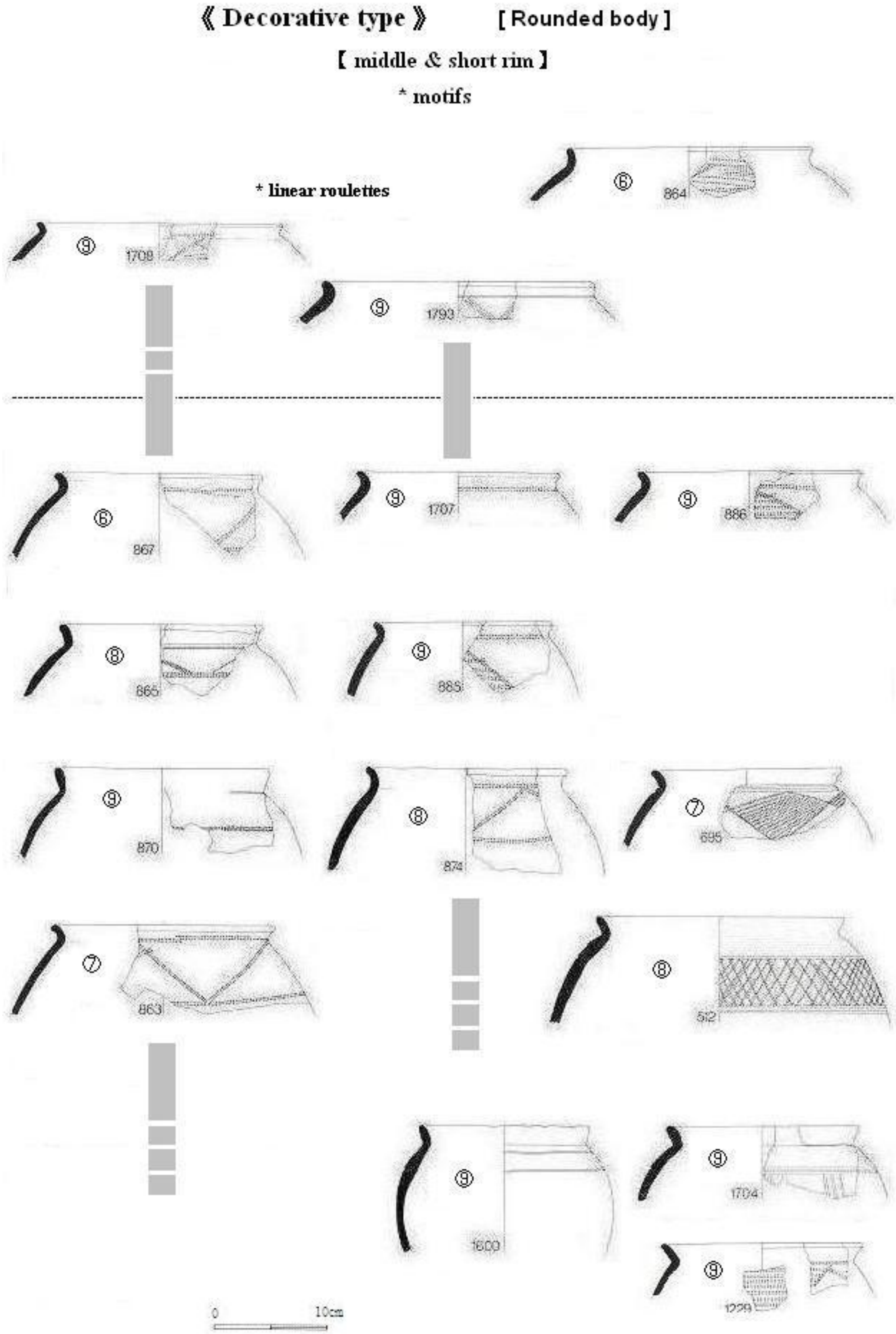


Fig. 5.69　Typological classification of ceramics in categories ④ to ⑨ (5)

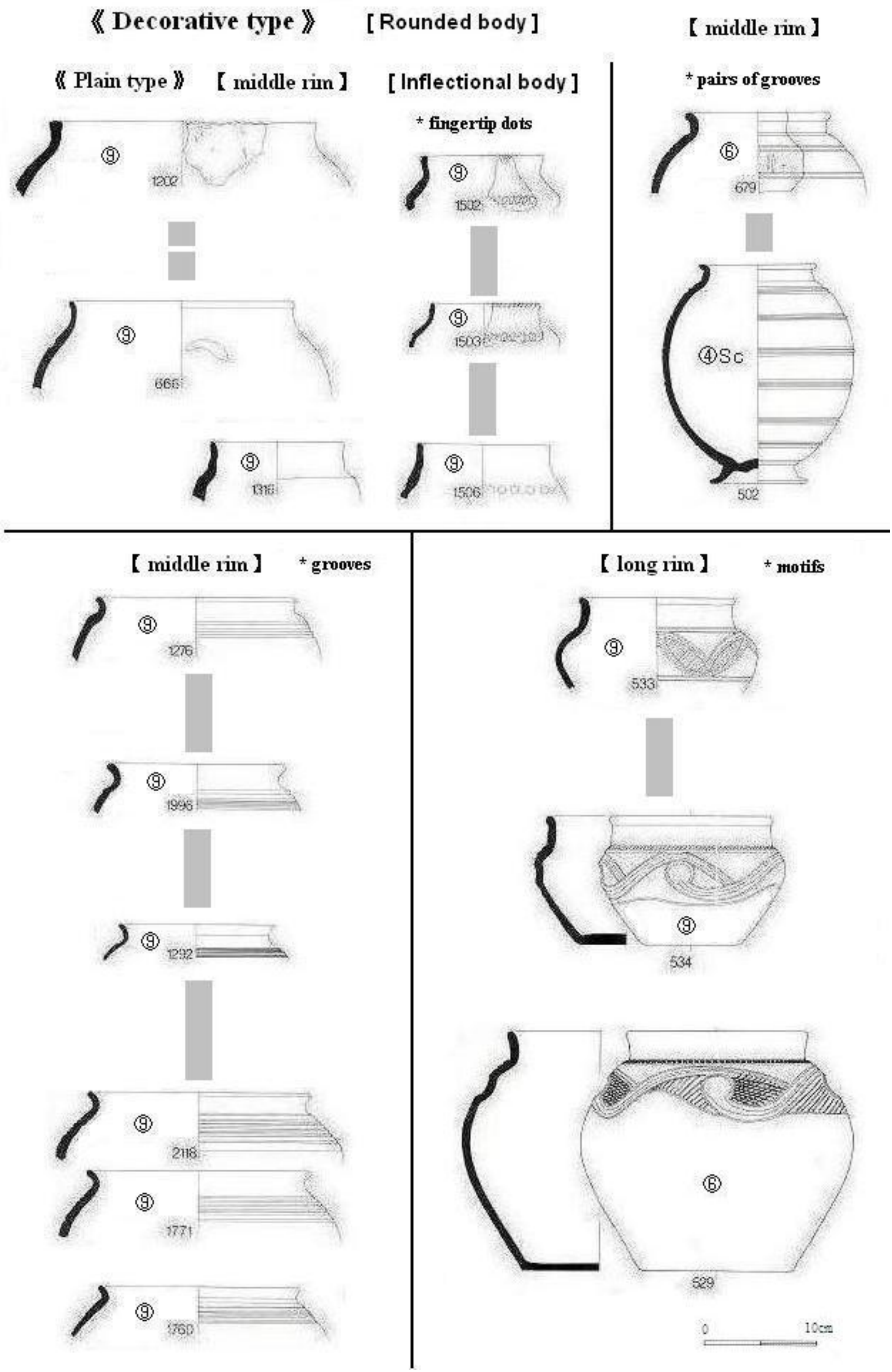


Fig. 5.70 Typological classification of ceramics in categories ④ to ⑨ (6)

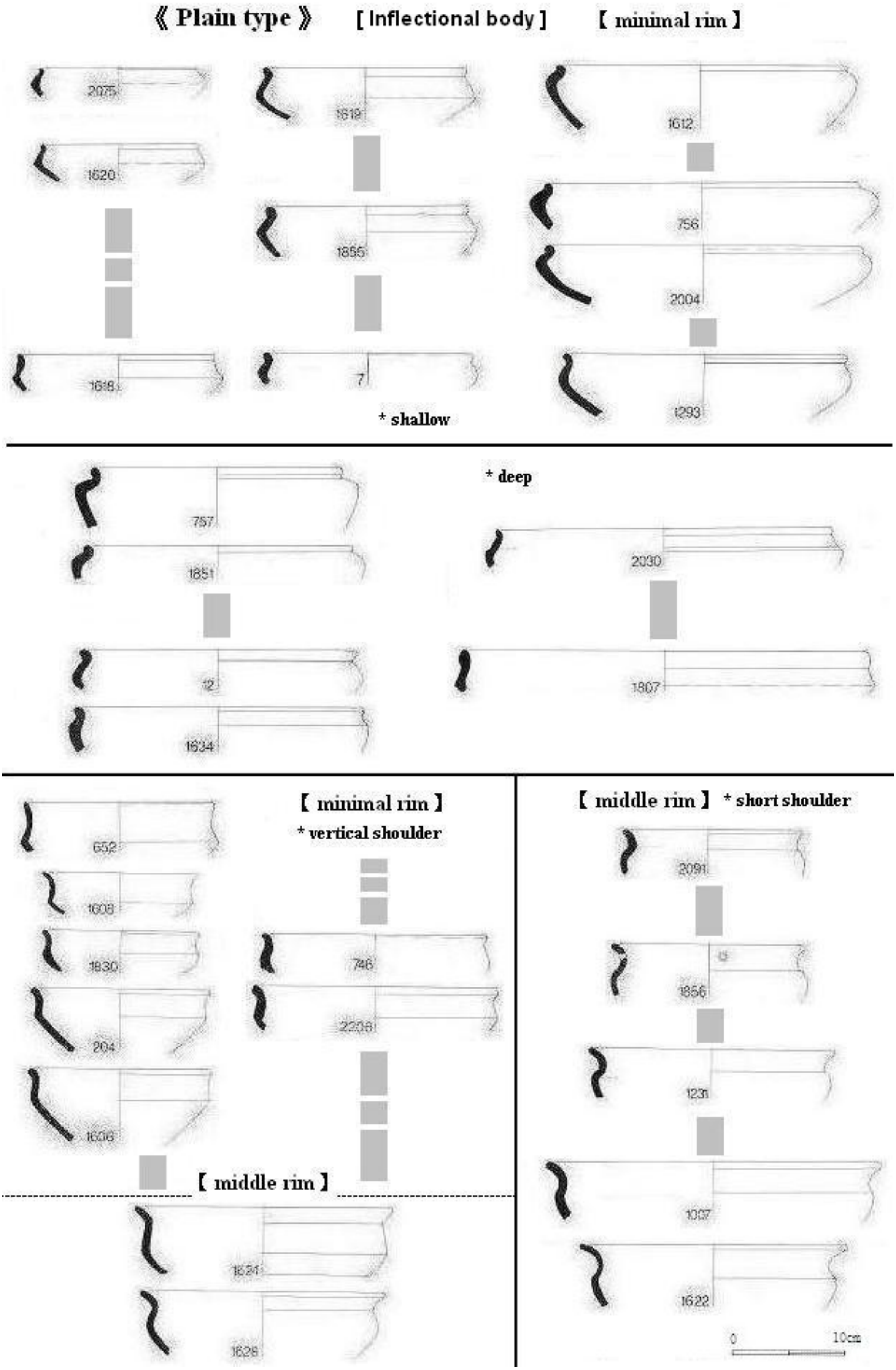


Fig. 5.71 Typological classification of ceramics in category ⑩ and ⑪ (1)

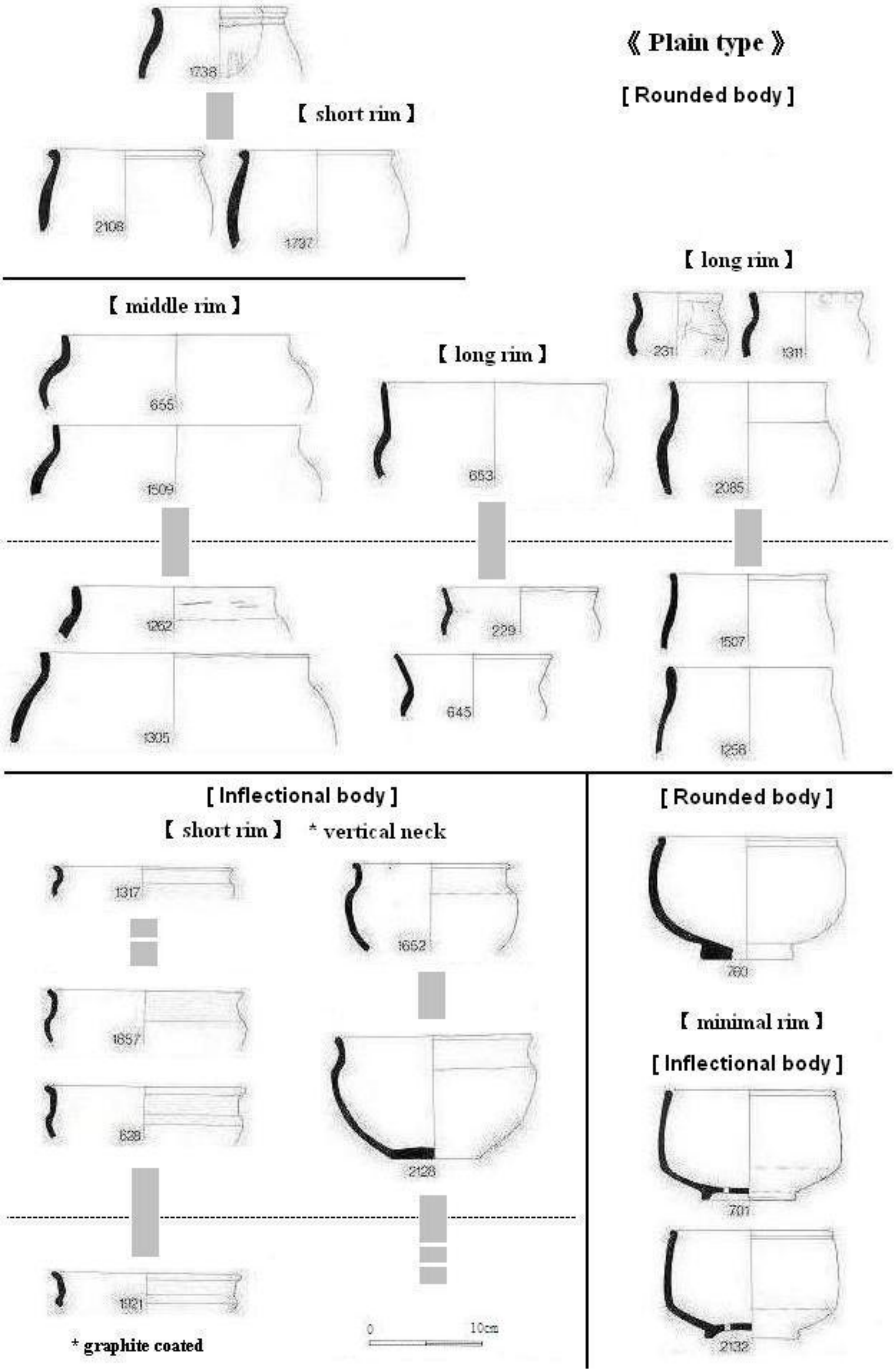


Fig. 5.72 Typological classification of ceramics in category ⑩ and ⑪ (2)

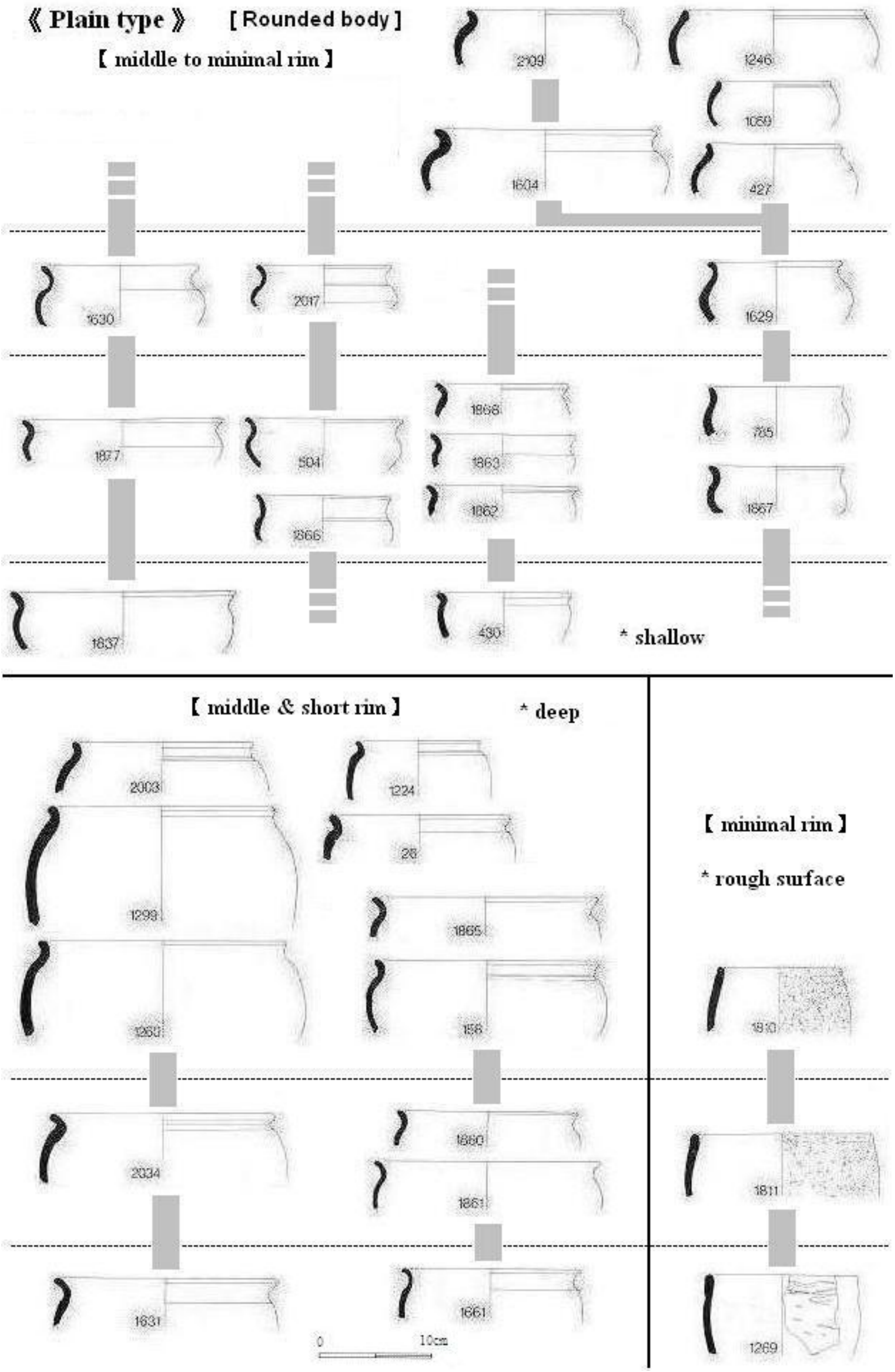


Fig. 5.73 Typological classification of ceramics in category ⑩ and ⑪ (3)

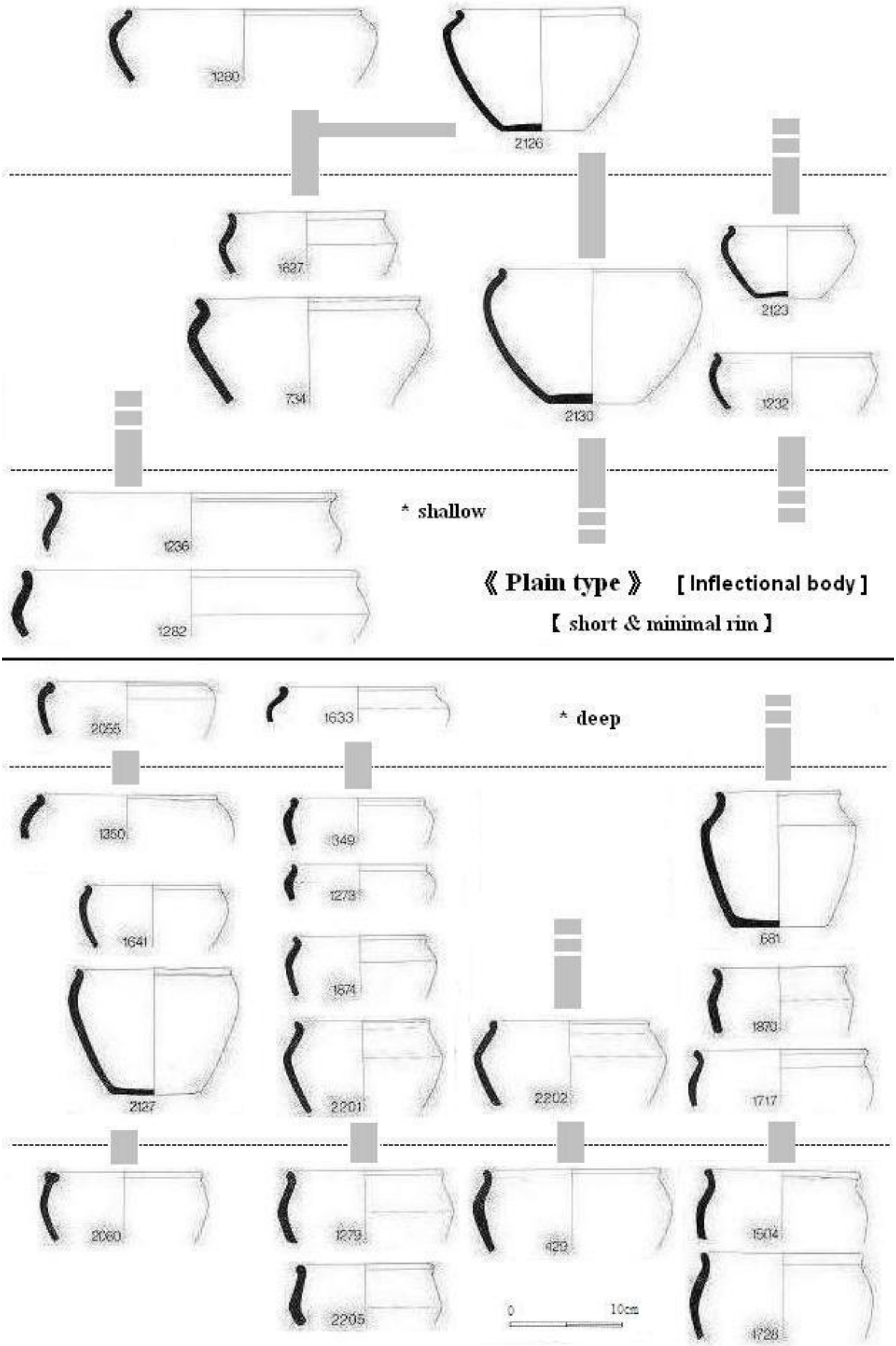


Fig. 5.74 Typological classification of ceramics in category ⑩ and ⑪ (4)

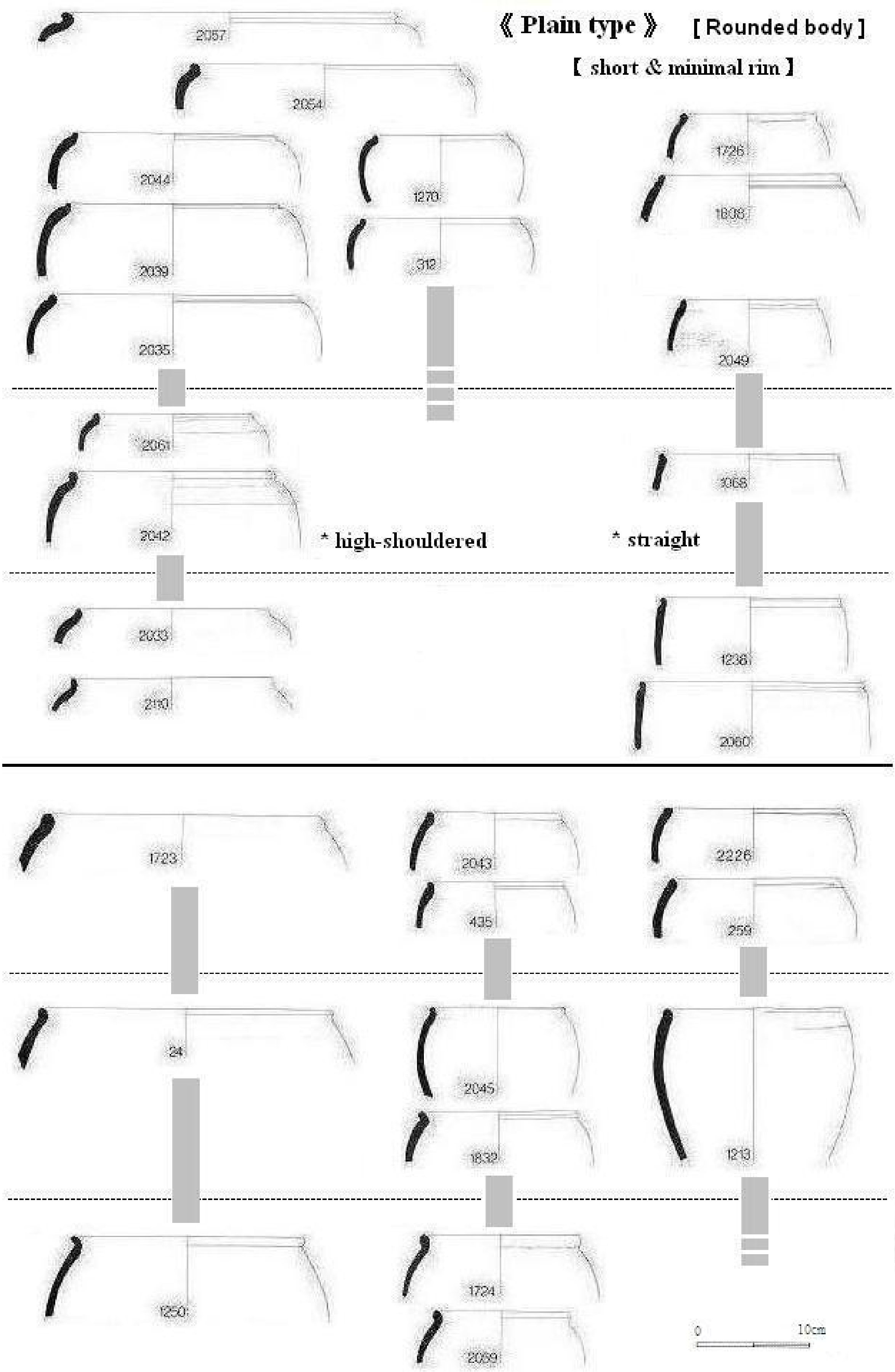


Fig. 5.75 Typological classification of ceramics in category ⑩ and ⑪ (5)

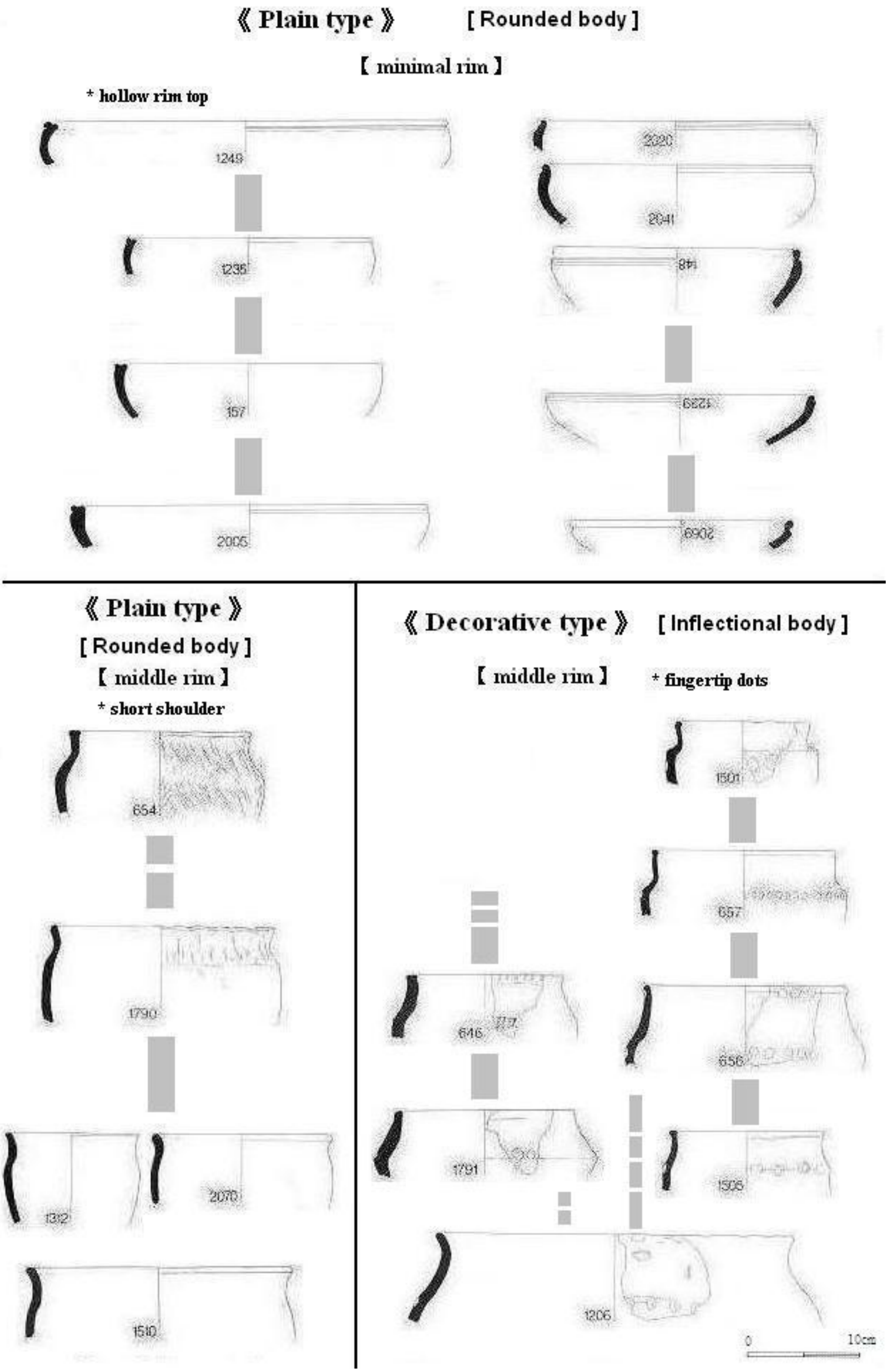


Fig. 5.76 Typological classification of ceramics in category ⑩ and ⑪ (6)

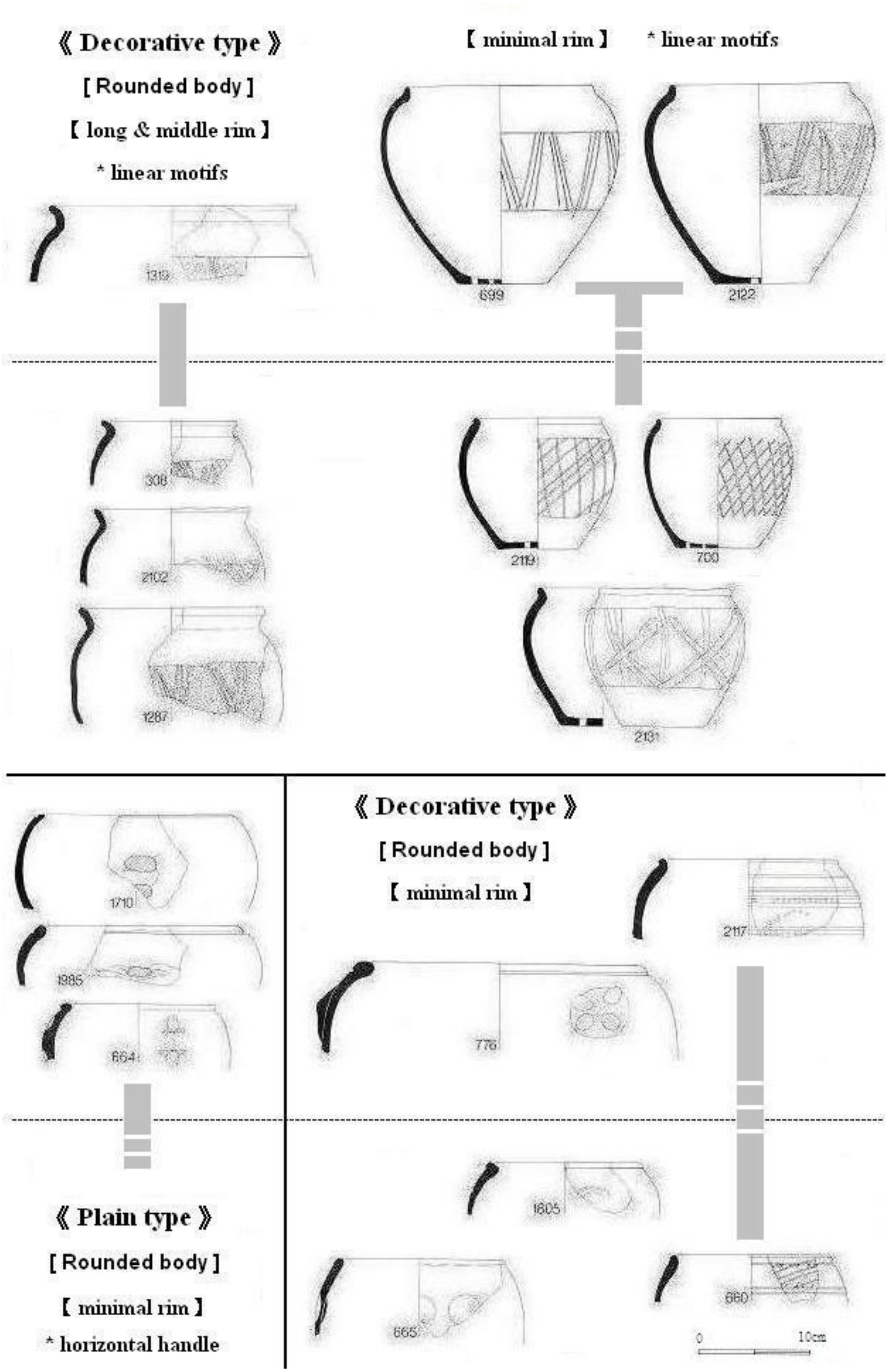


Fig. 5.77 Typological classification of ceramics in category ⑩ and ⑪ (7)

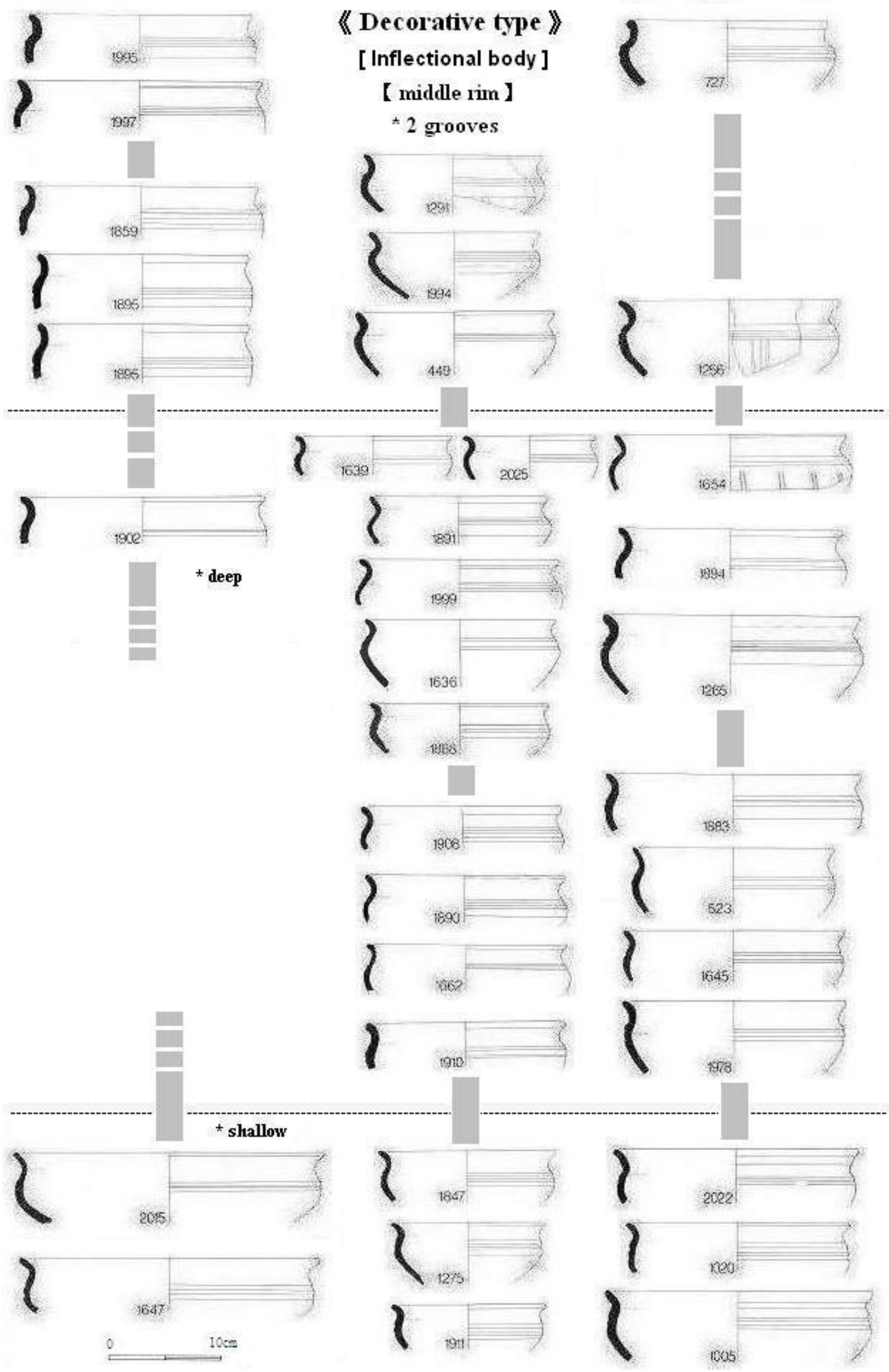


Fig. 5.78 Typological classification of ceramics in category ⑩ and ⑪ (8)

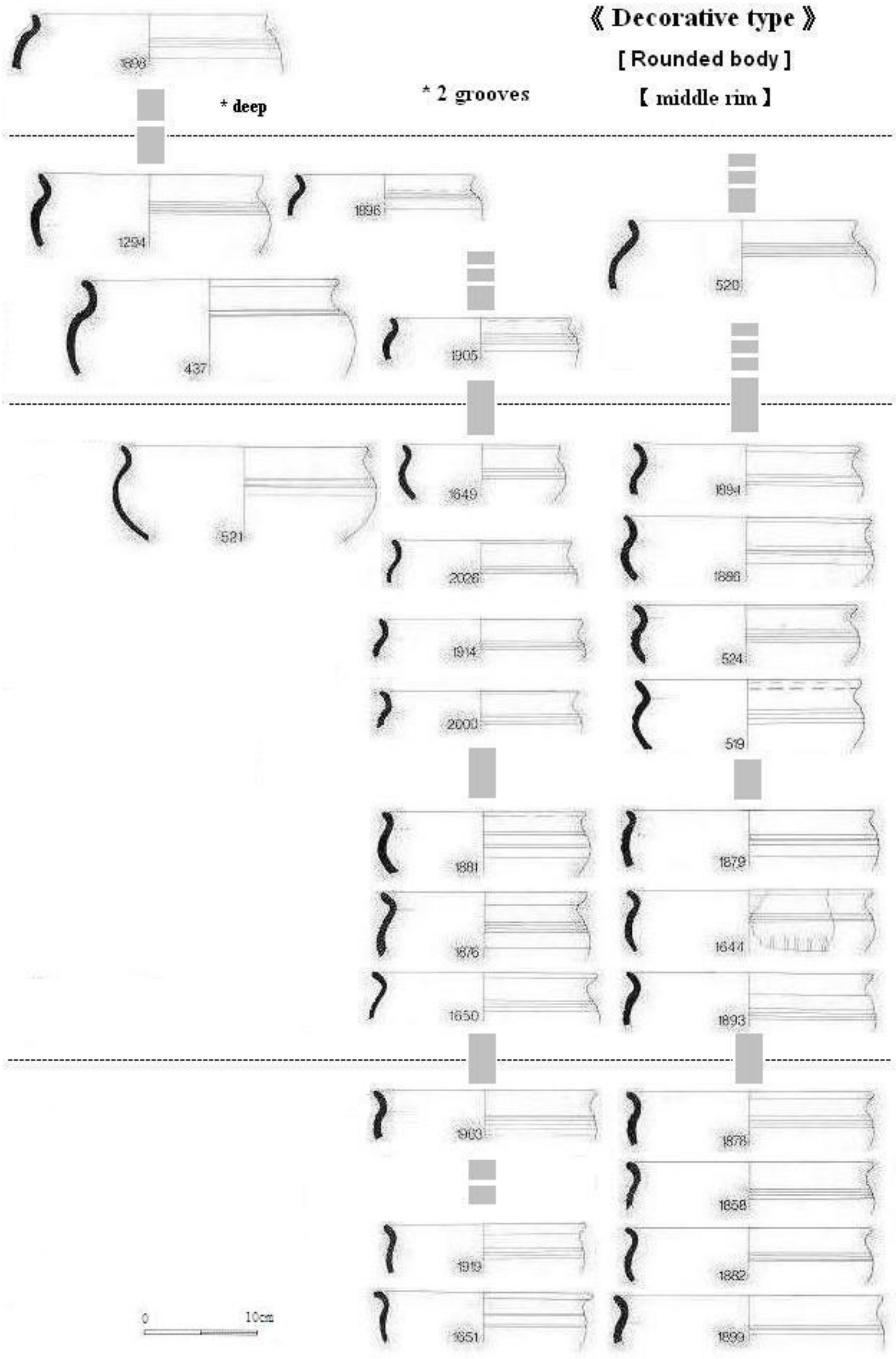


Fig. 5.79　Typological classification of ceramics in category ⑩ and ⑪ (9)

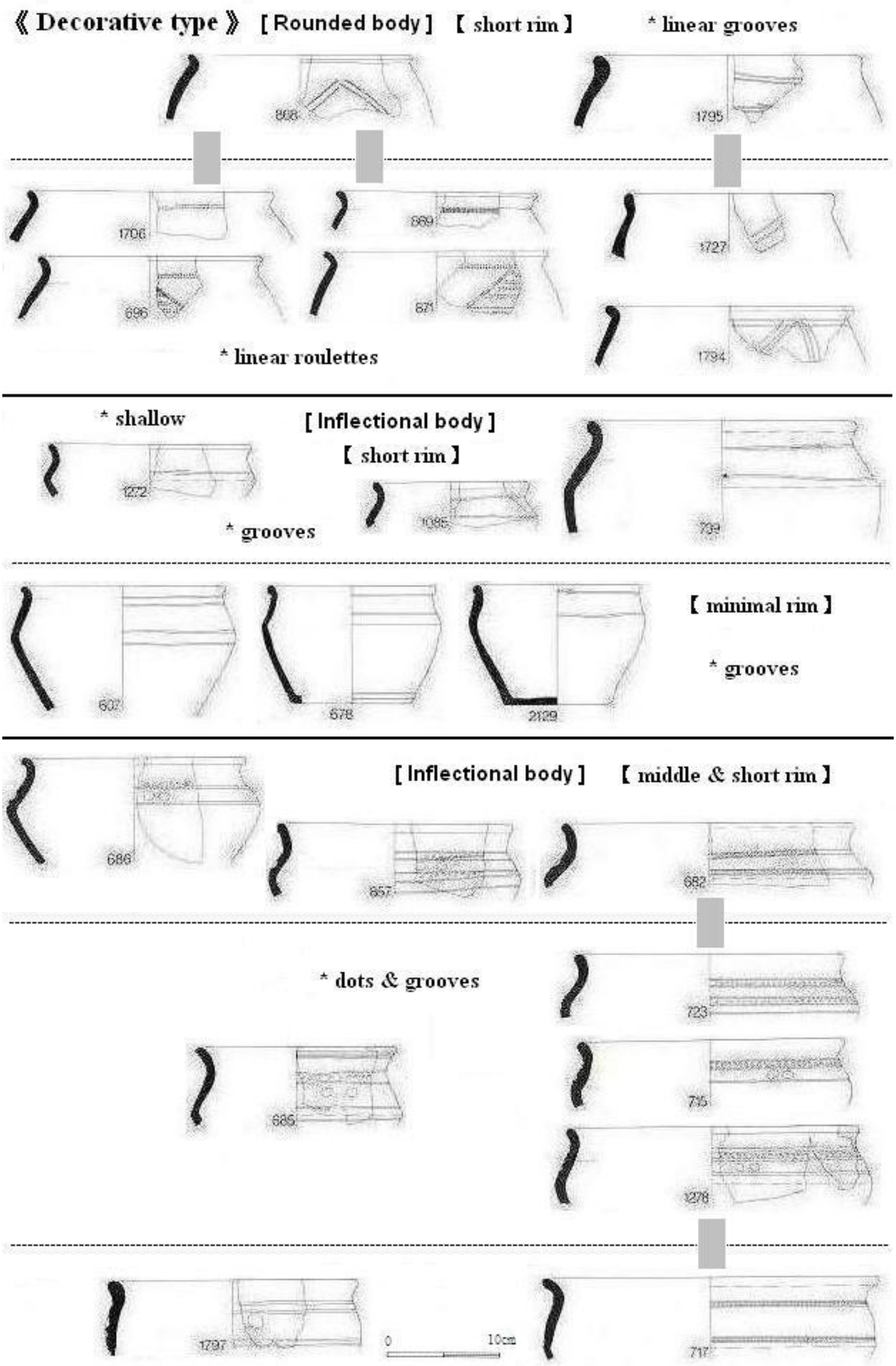


Fig. 5.80 Typological classification of ceramics in category ⑩ and ⑪ (10)

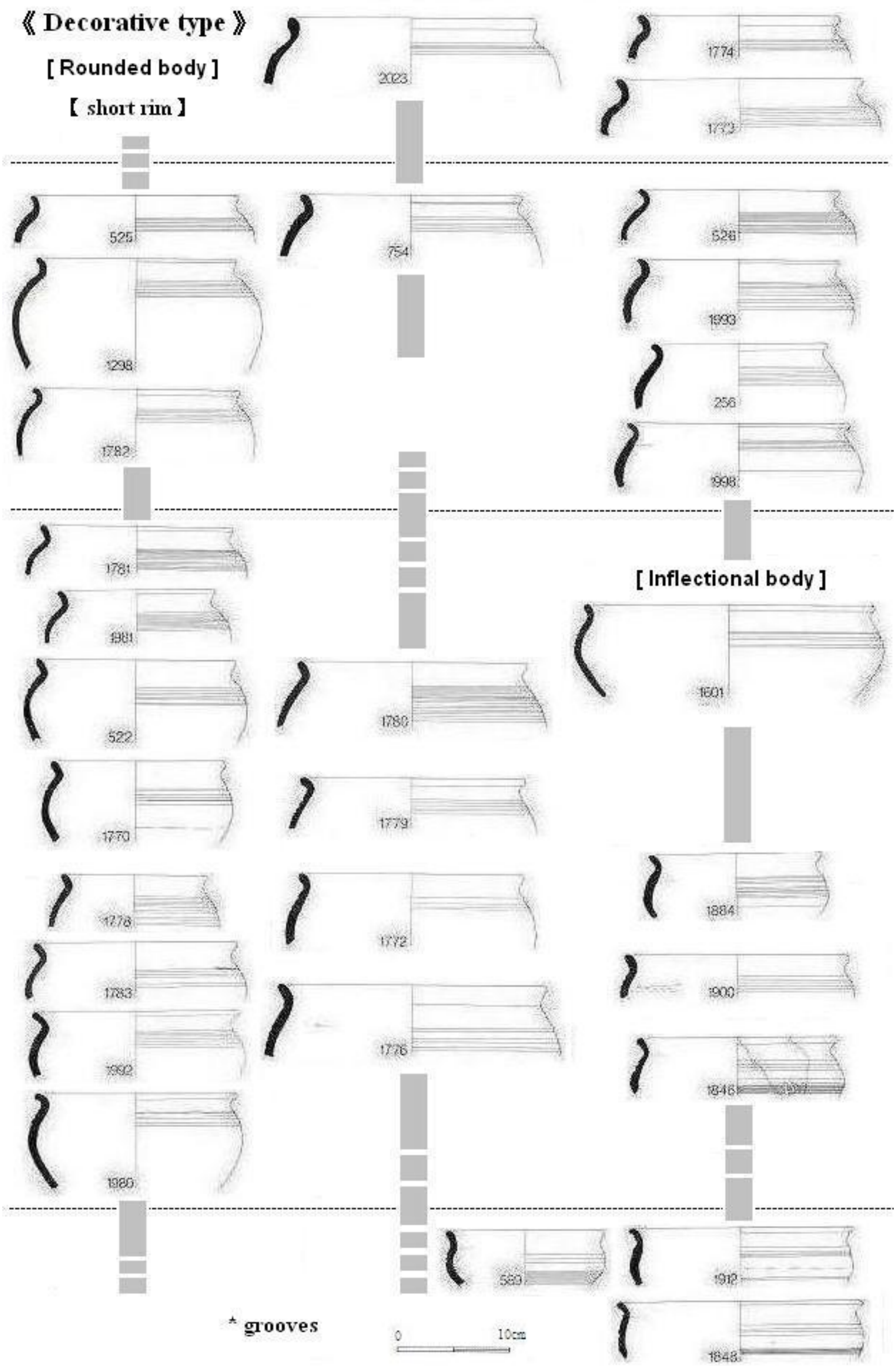


Fig. 5.81 Typological classification of ceramics in category ⑩ and ⑪ (11)

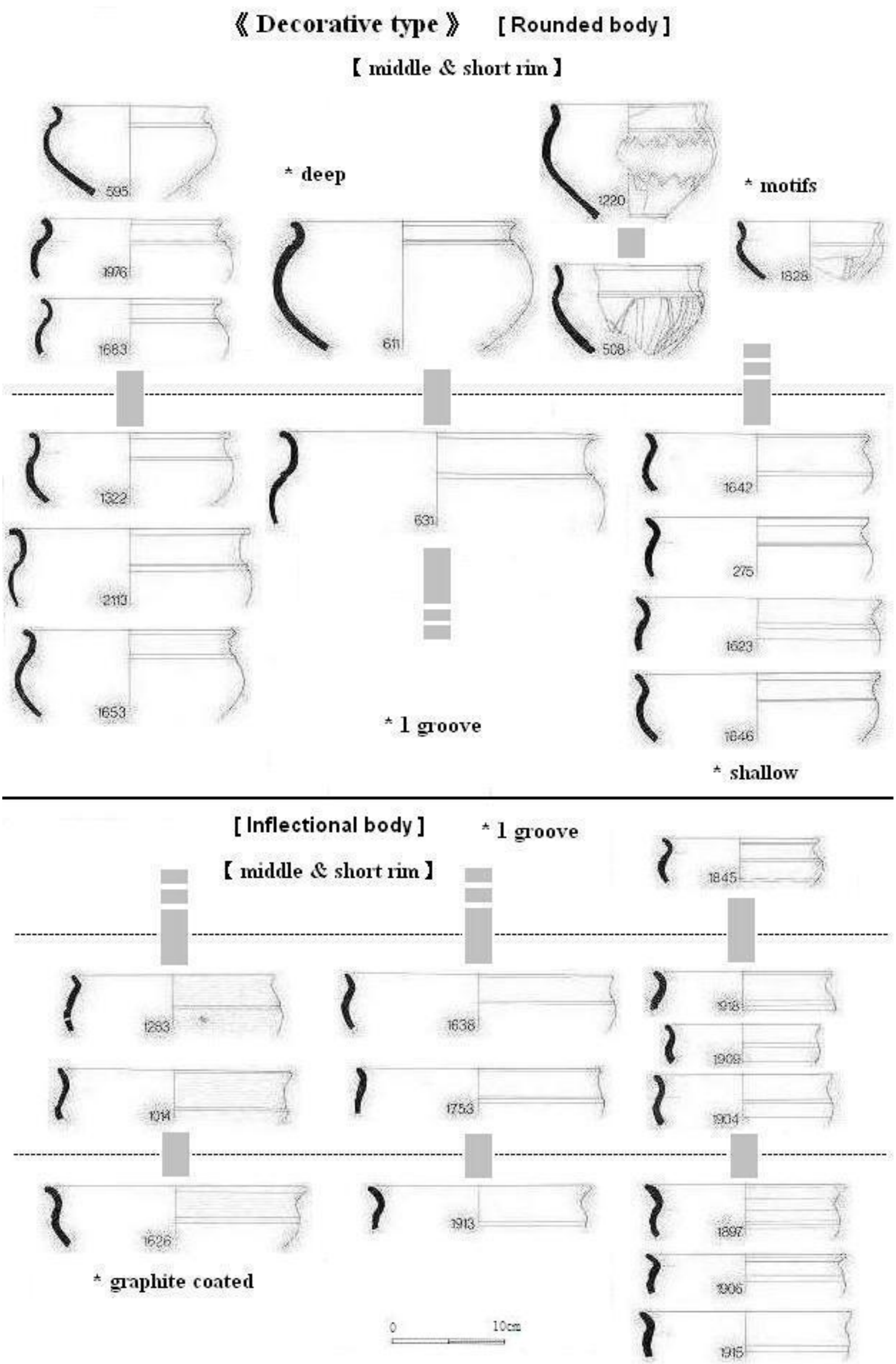


Fig. 5.82 Typological classification of ceramics in category ⑩ and ⑪ (12)

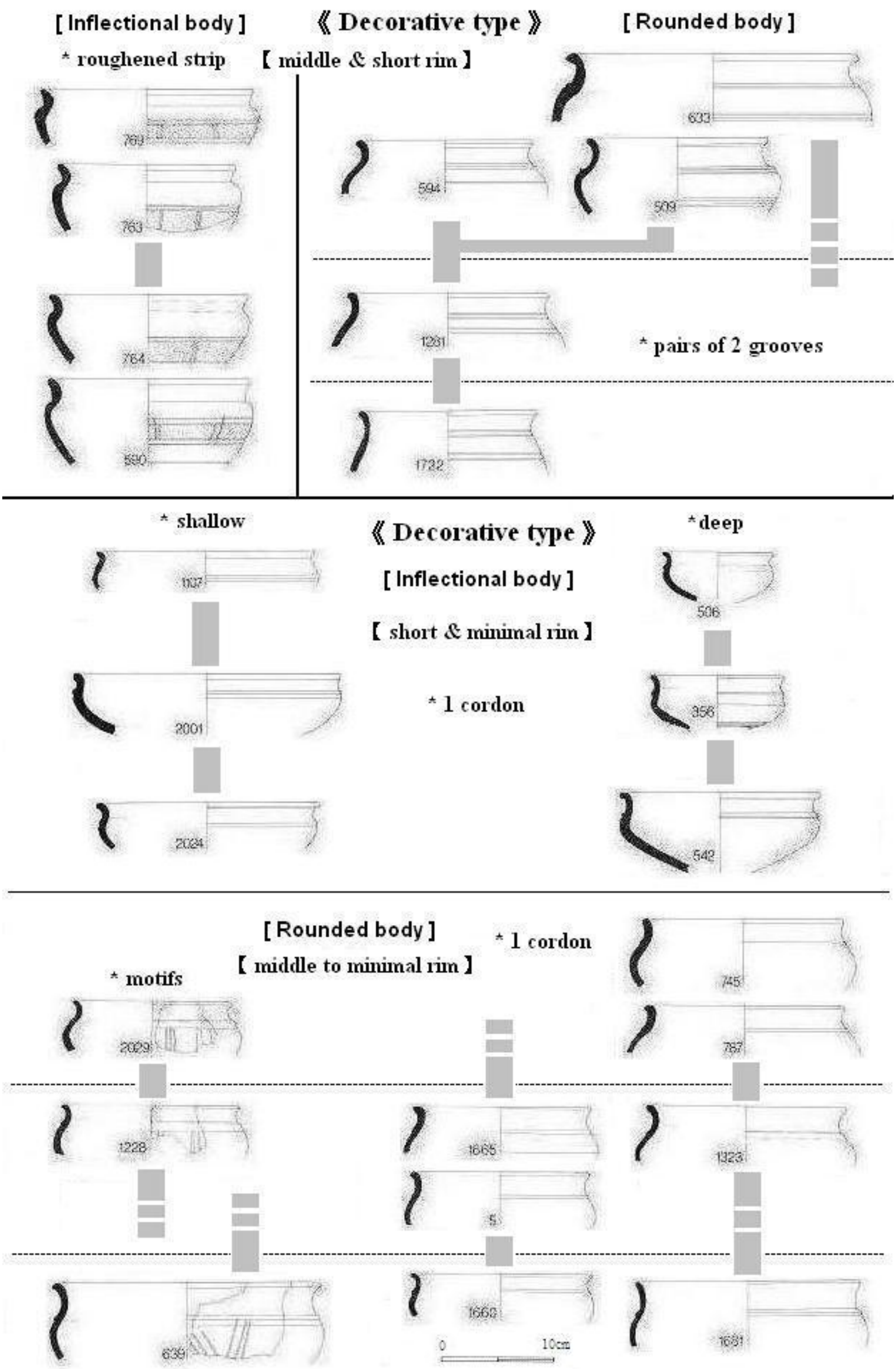


Fig. 5.83 Typological classification of ceramics in category ⑩ and ⑪ (13)

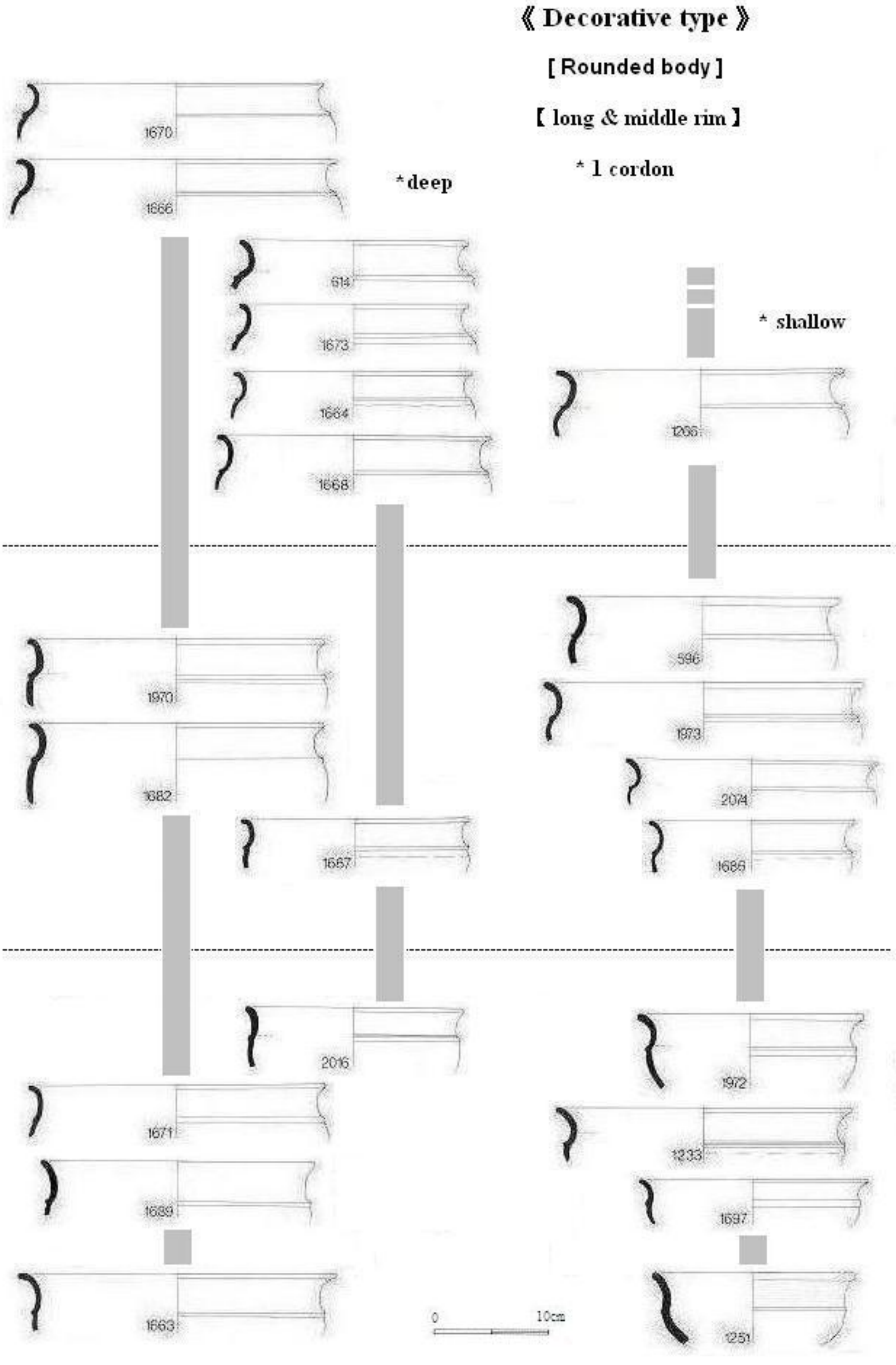


Fig. 5.84 Typological classification of ceramics in category ⑩ and ⑪ (14)

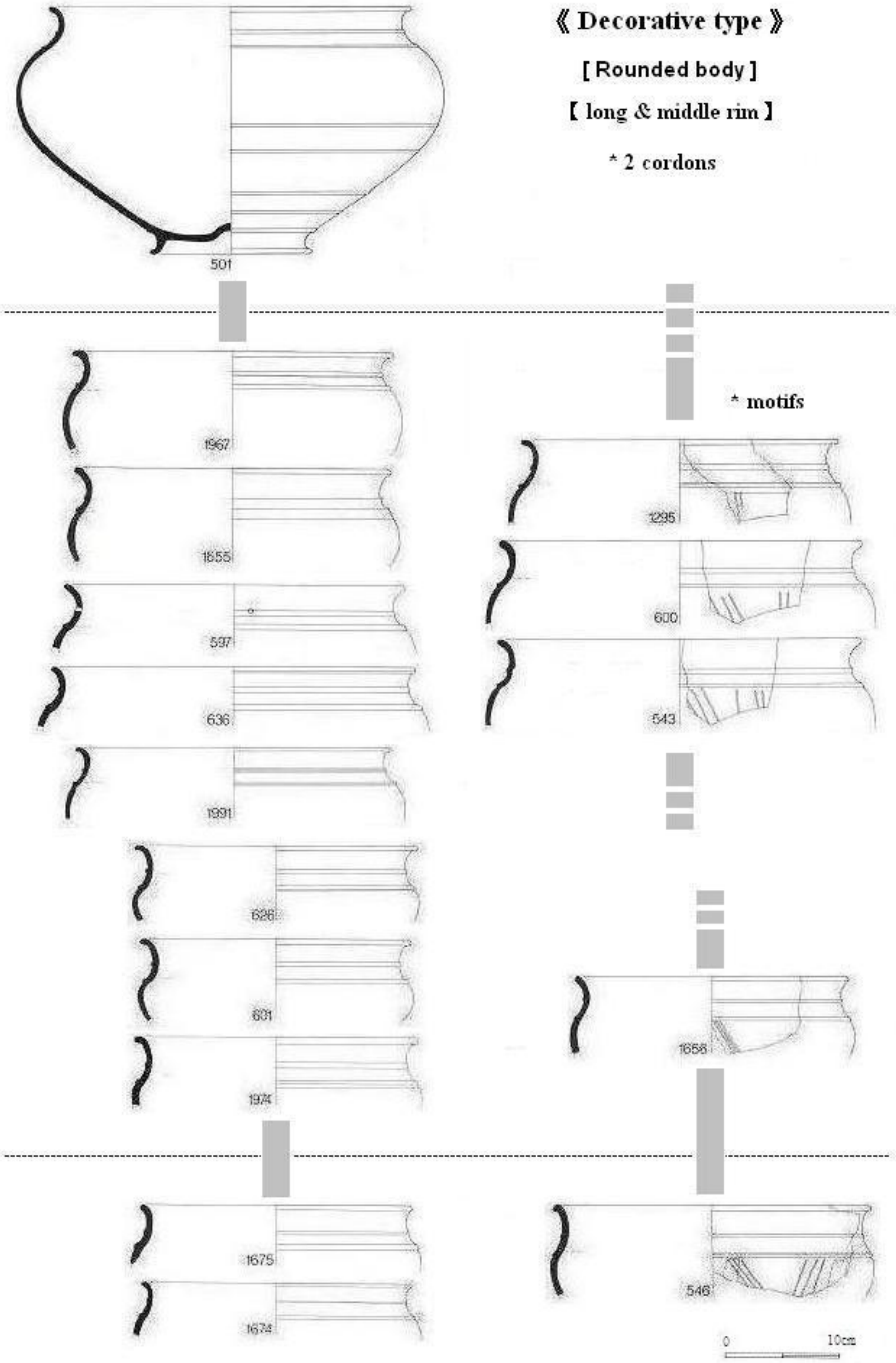


Fig. 5.85 Typological classification of ceramics in category ⑩ and ⑪ (15)

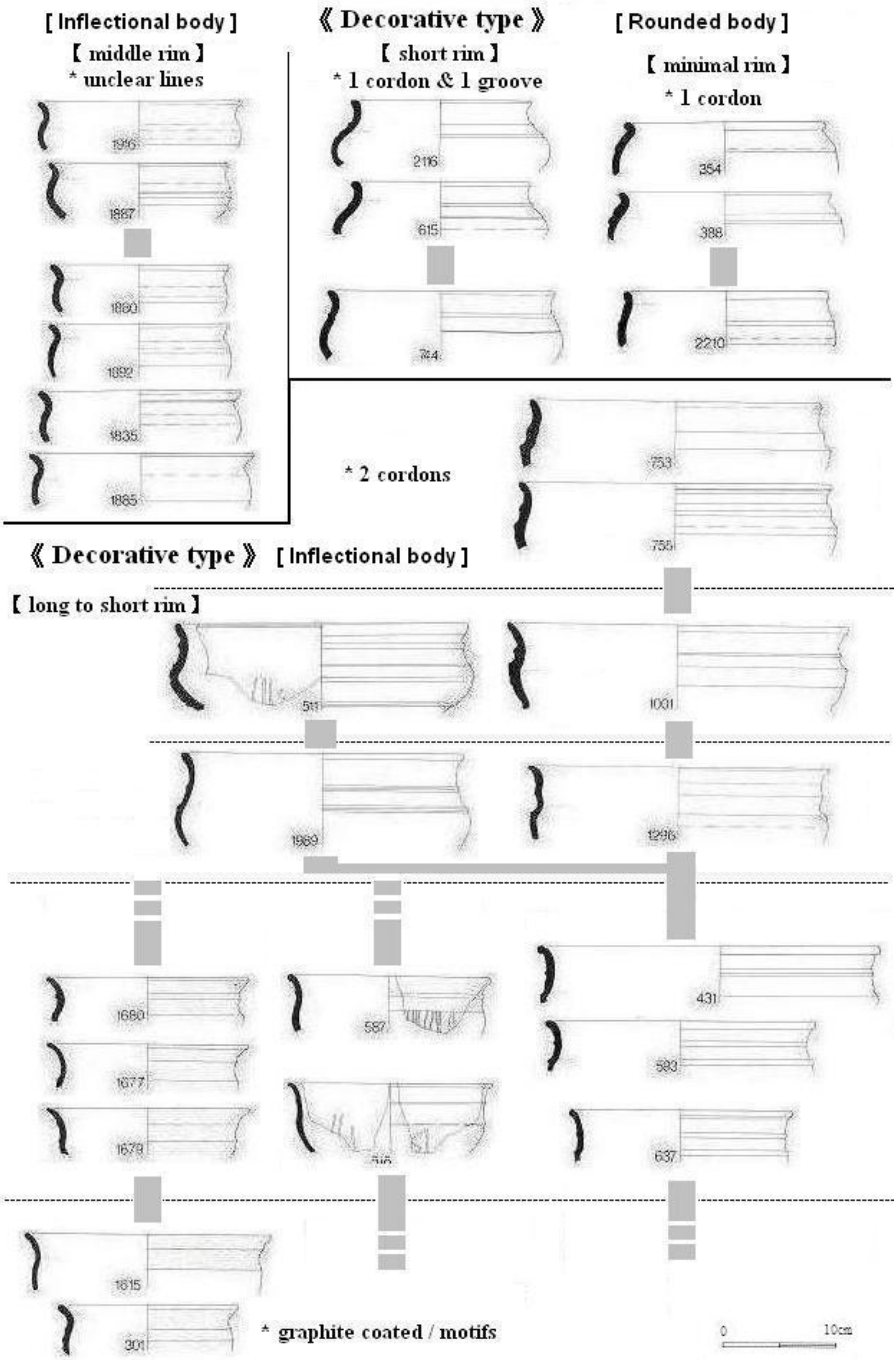


Fig. 5.86 Typological classification of ceramics in category ⑩ and ⑪ (16)

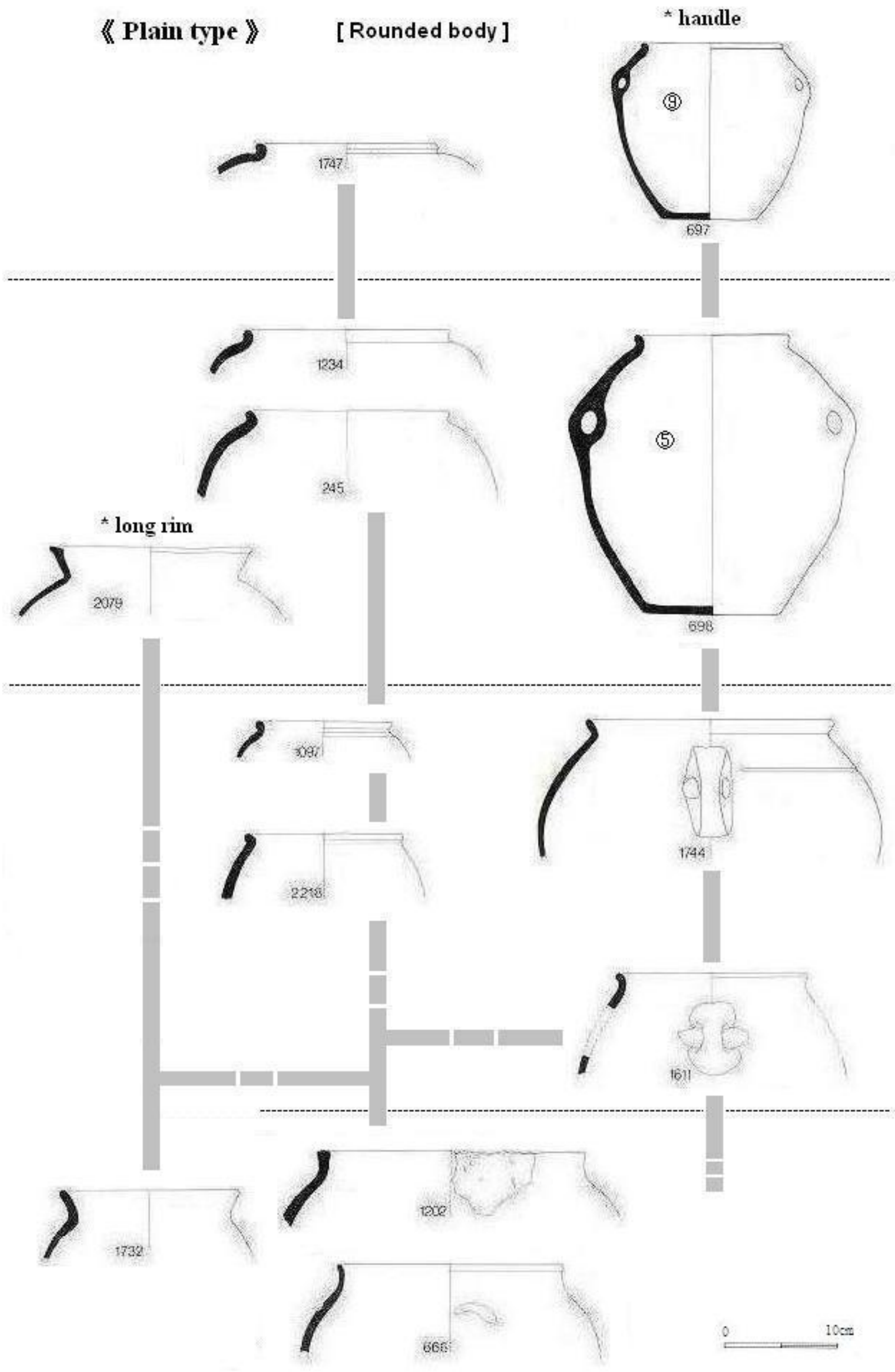


Fig. 5.87 Sequences of the Plain types in categories ④ to ⑨

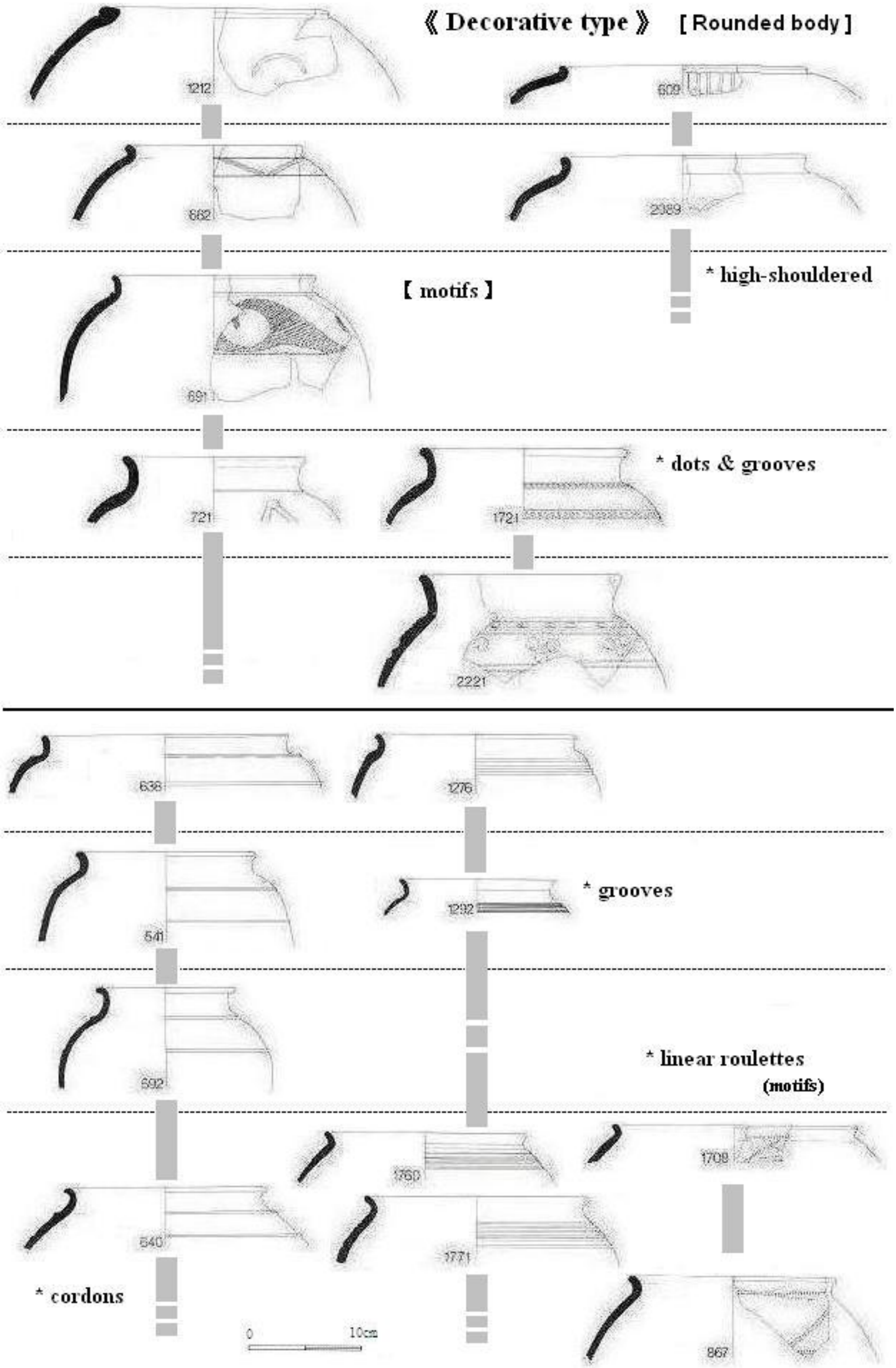


Fig. 5.88 Sequences of the Decorative types in category ④ to ⑨

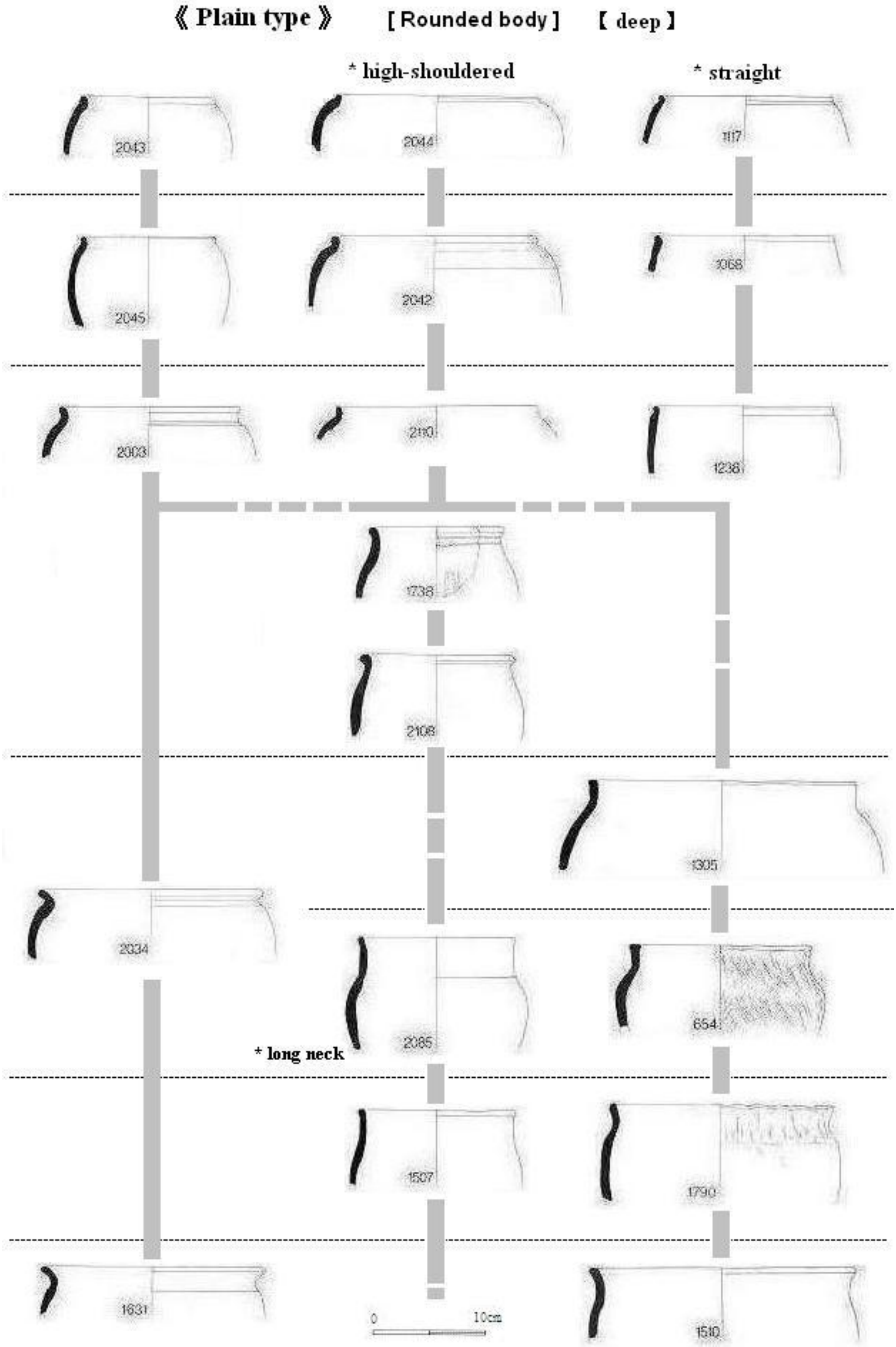


Fig. 5.89 Sequences of the Plain types in category ⑩ and ⑪ (1)

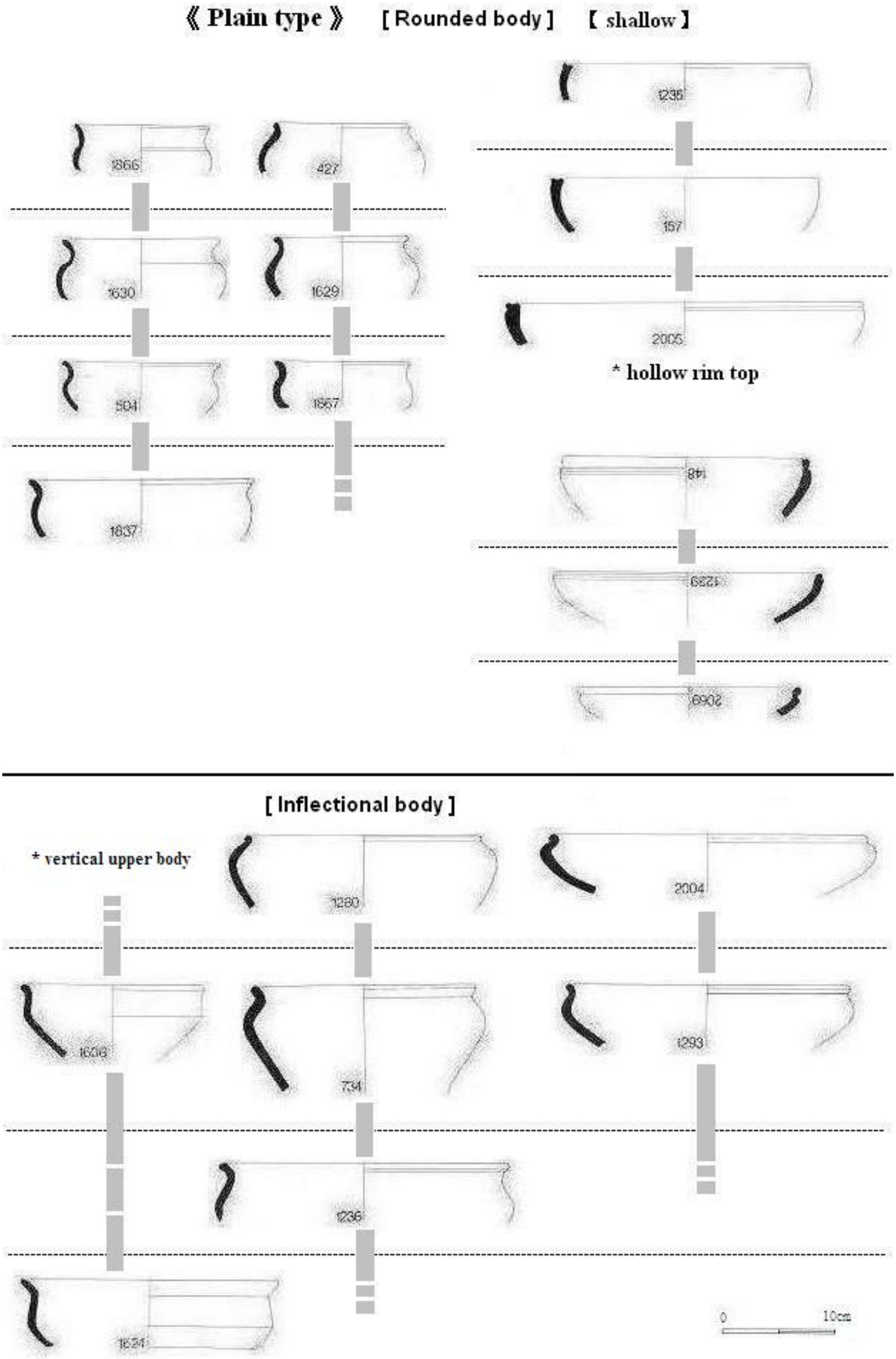


Fig. 5.90 Sequences of the Plain types in category ⑩ and ⑪ (2)

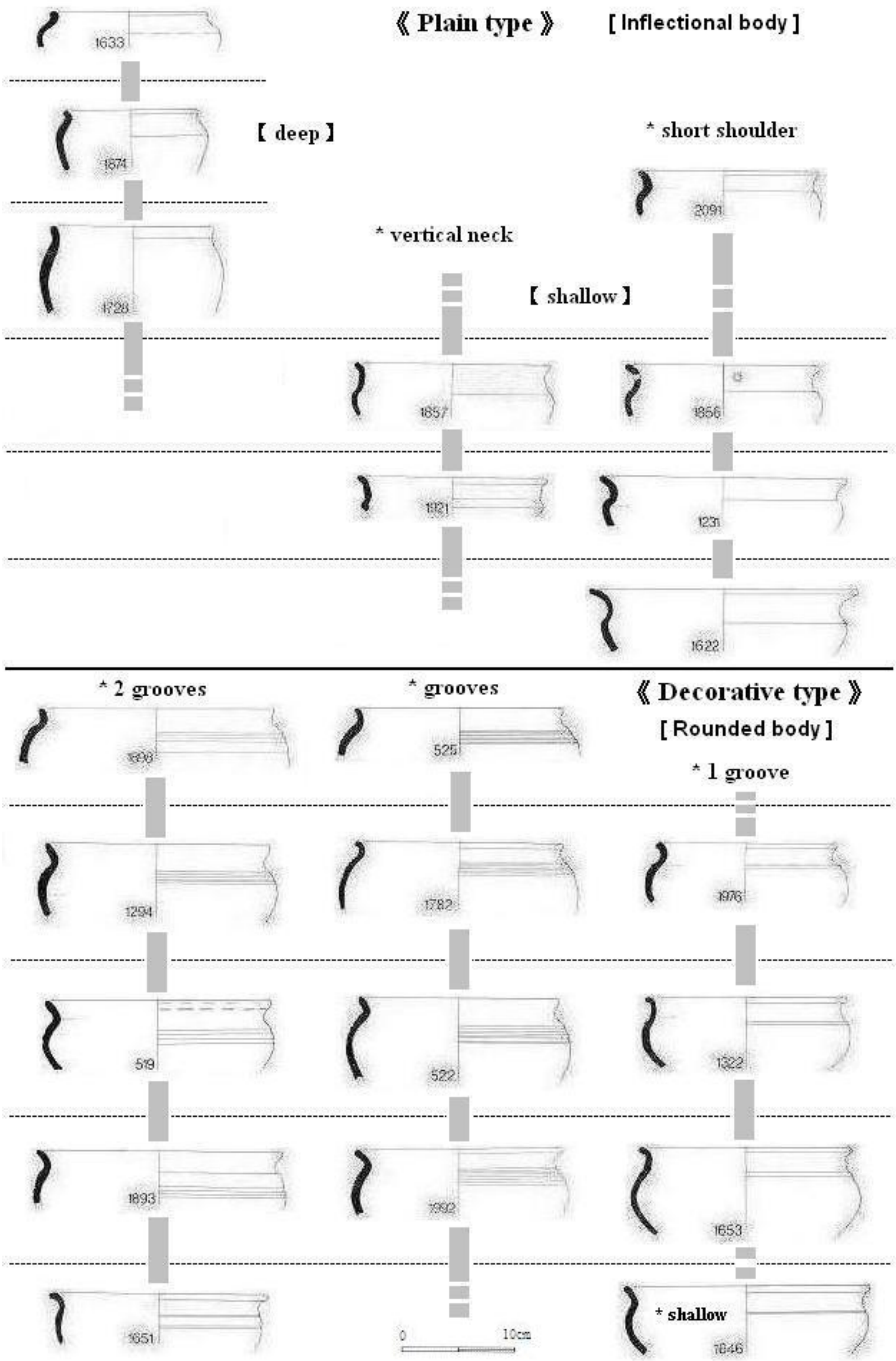


Fig. 5.91 Sequences of the Plain types and the Decorative types in category ⑩ and ⑪

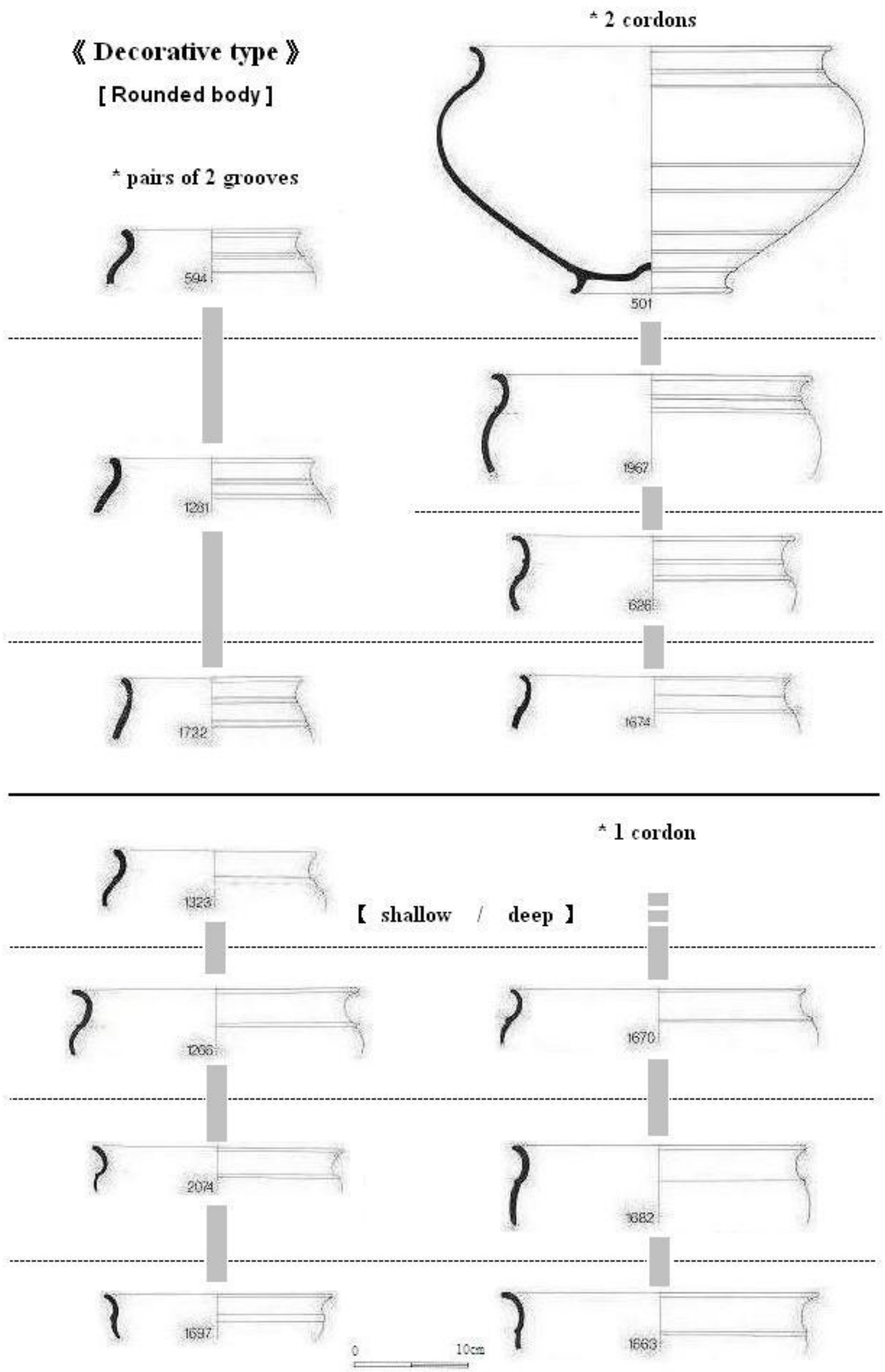


Fig. 5.92 Sequences of the Decorative types in category ⑩ and ⑪ (1)

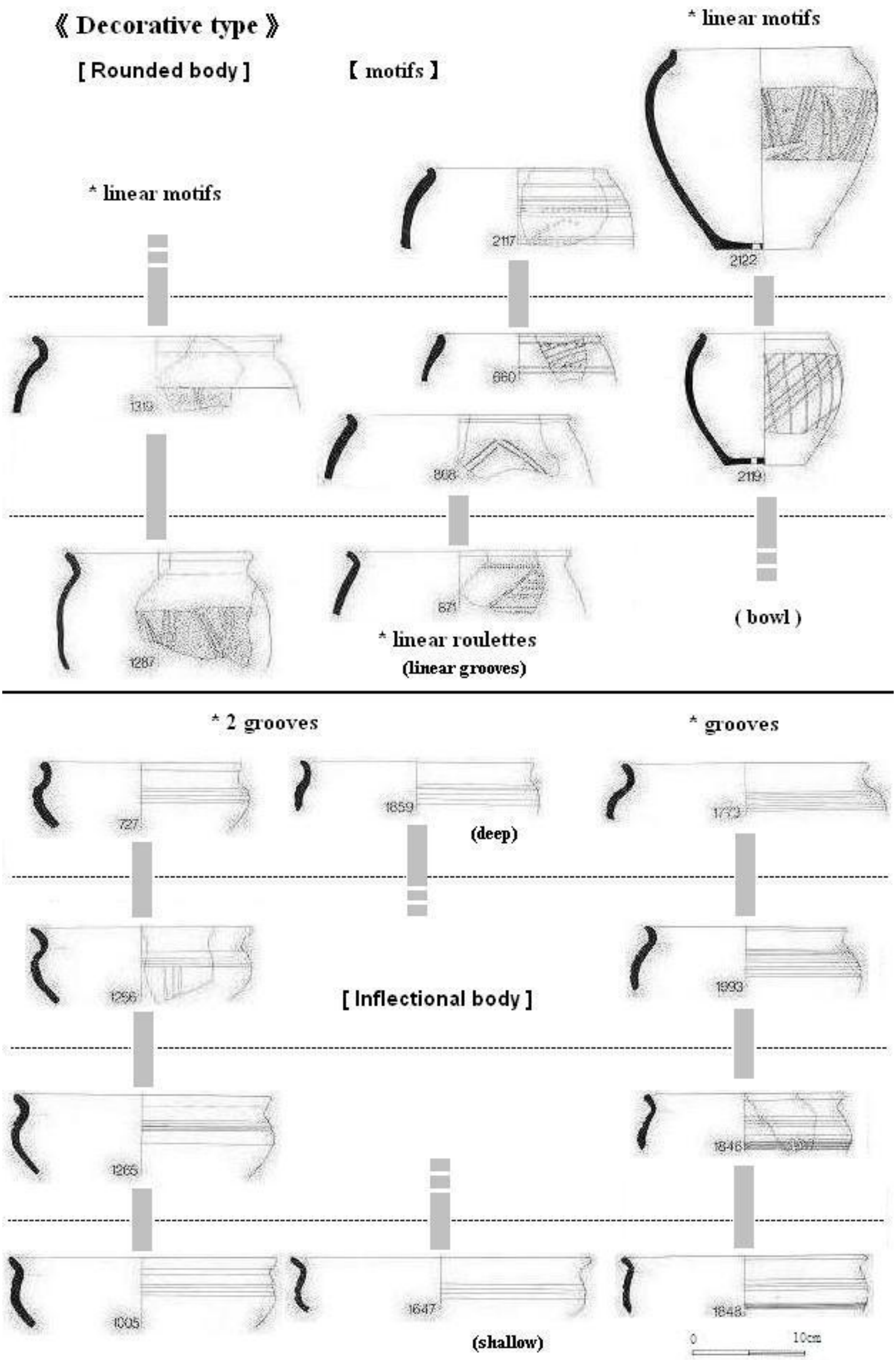


Fig. 5.93 Sequences of the Decorative types in category ⑩ and ⑪ (2)

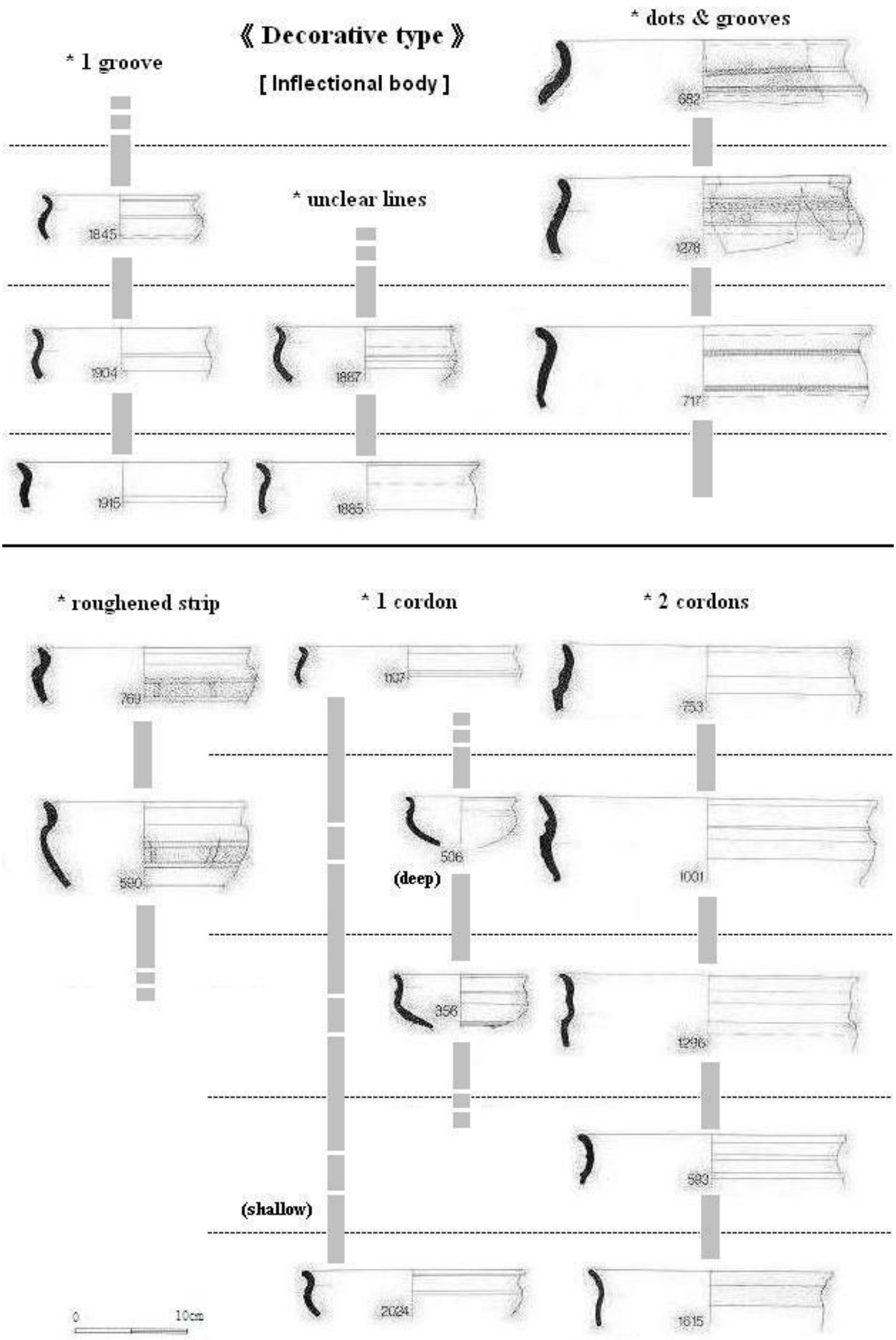


Fig. 5.94 Sequences of the Decorative types in category ⑩ and ⑪ (3)

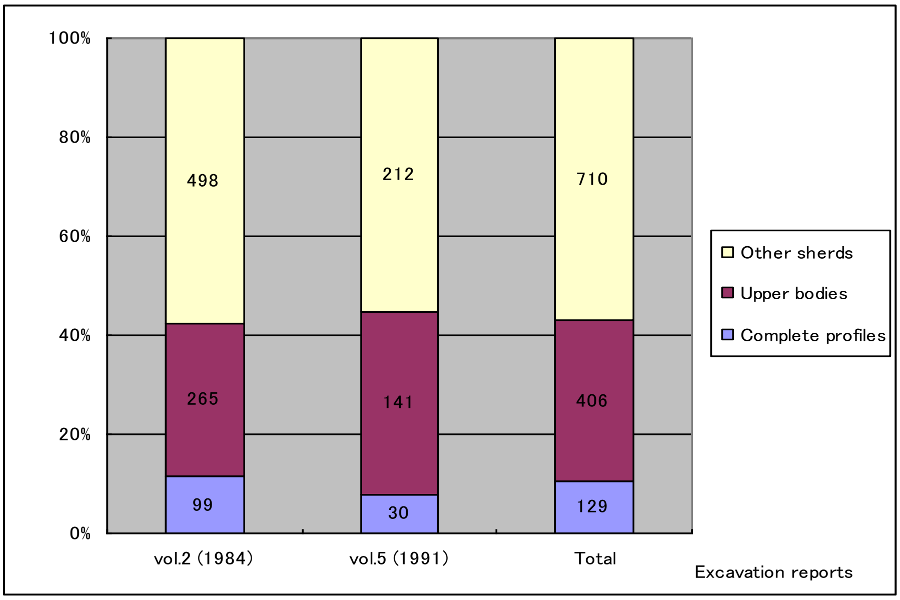


Fig. 6.1 The detail of different types of ceramic parts in the report drawings

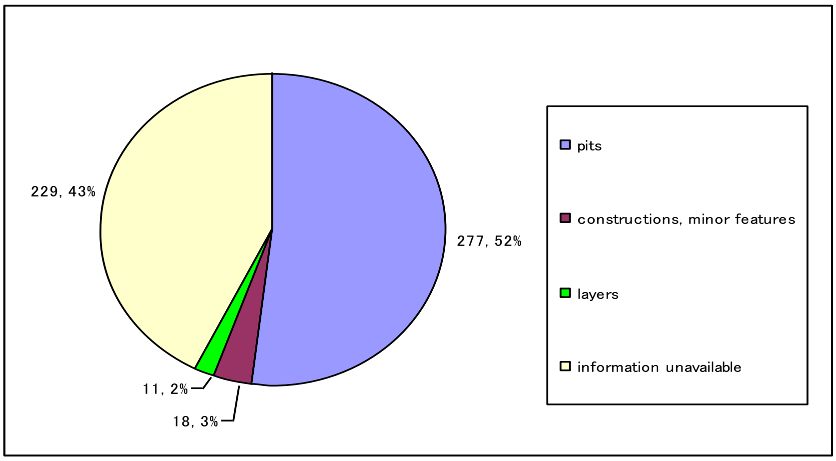


Fig. 6.2 The detail of different types of features producing the vessels (1) * n, %

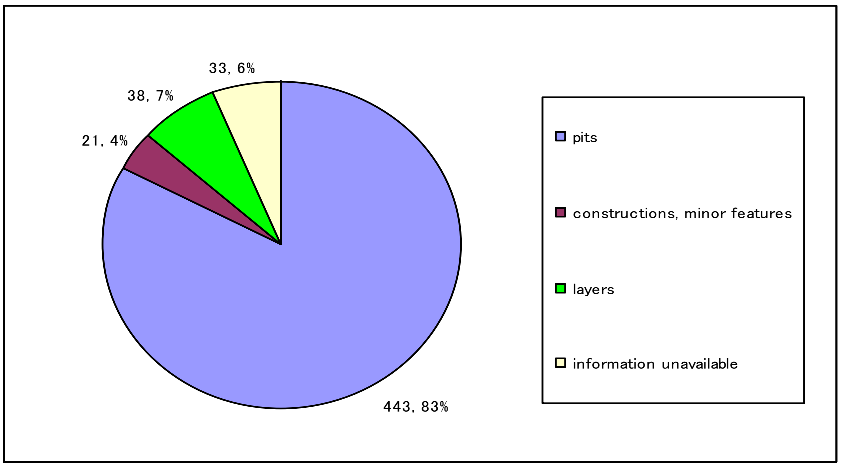


Fig. 6.3 The detail of different types of features producing the vessels (2) * n, %

Fig. 6.4 Plan of pits in the Iron Age of Danebury

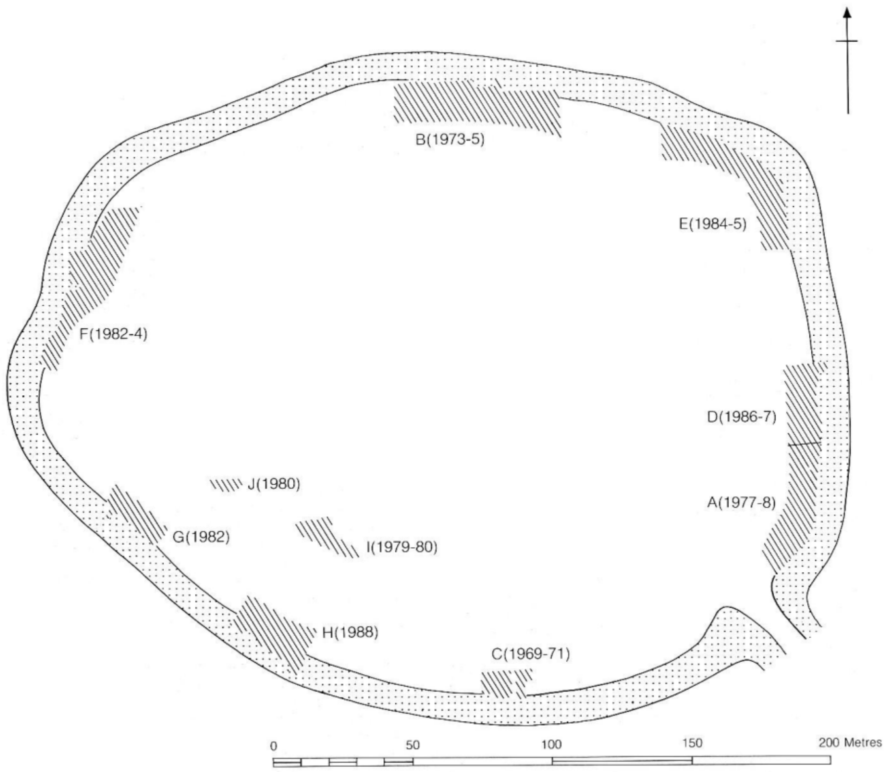


Fig. 6.5 Distribution of the stratified sequences in Danebury

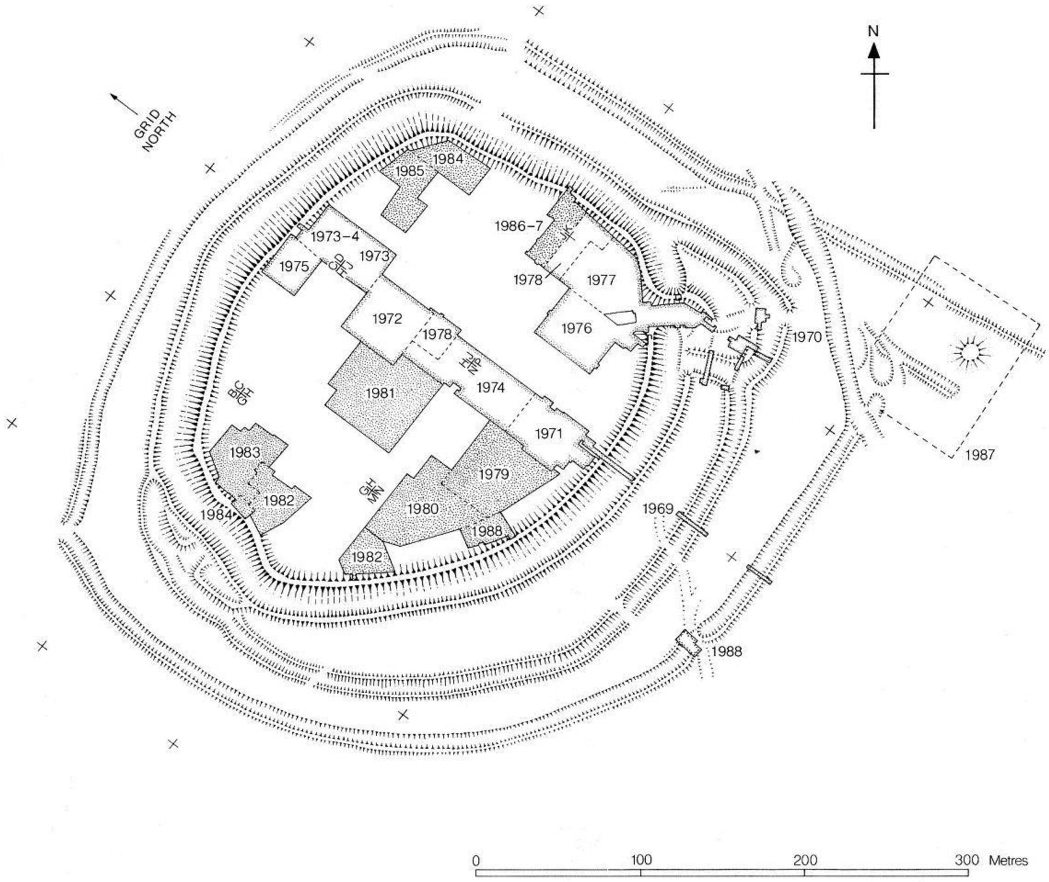


Fig. 6.6　Location of the excavation areas in Danebury

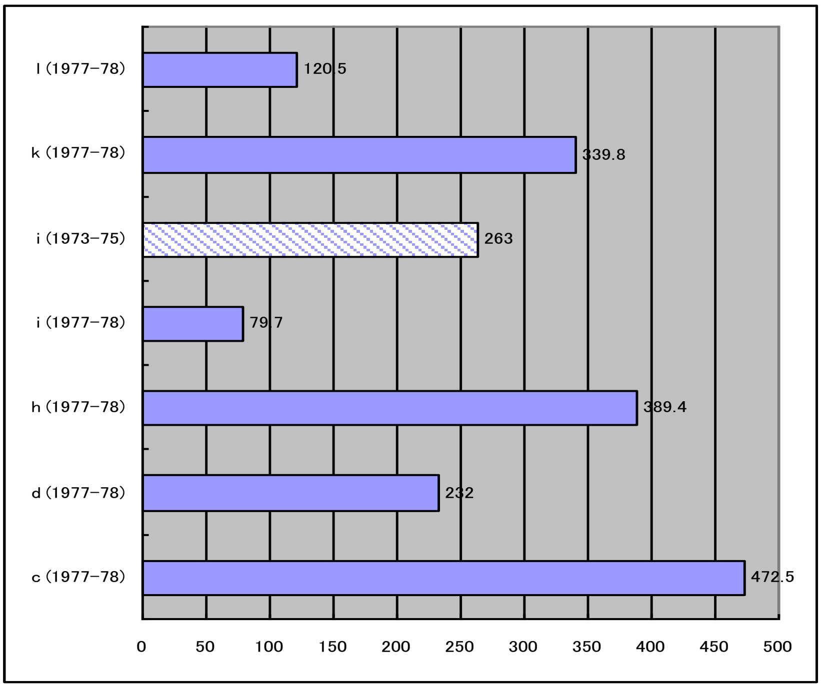


Fig. 6.7　The average values of the medians of radiocarbon dates in each period　* X: BC, Y: Phase

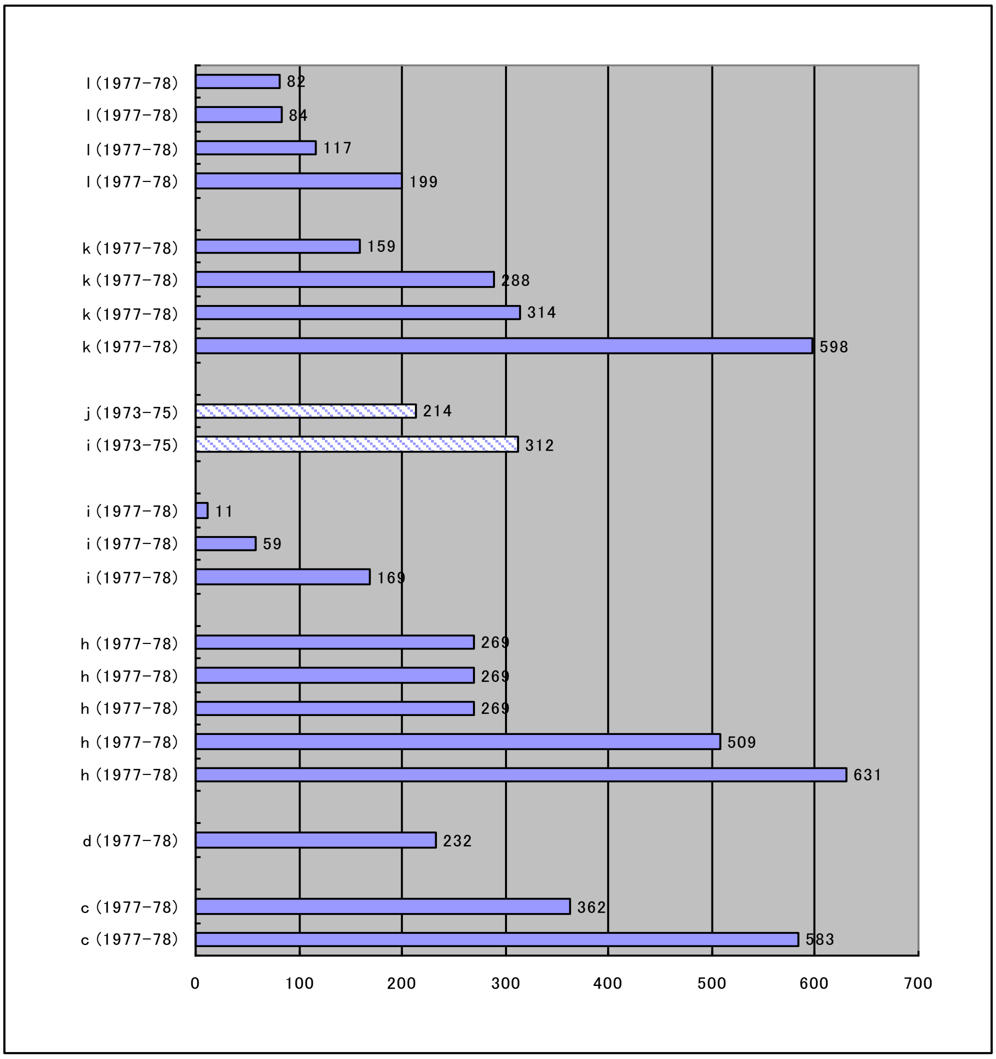


Fig. 6.8　The distribution of the medians of radiocarbon dates in each period　* X: BC, Y: Phase

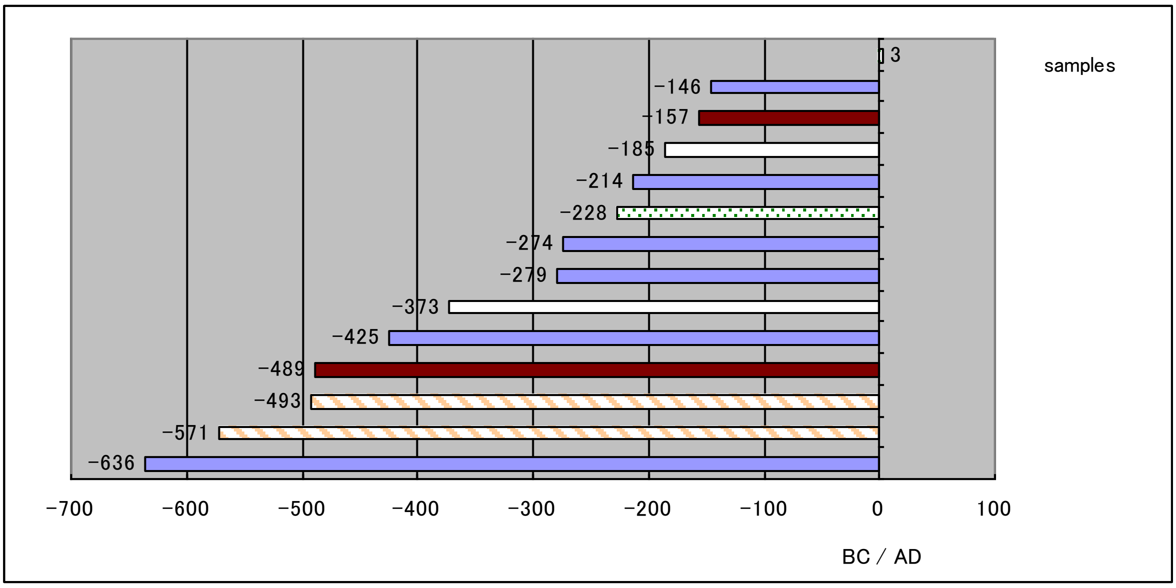


Fig. 6.9　The medians of radiocarbon dates of vessels selected for the typological classification

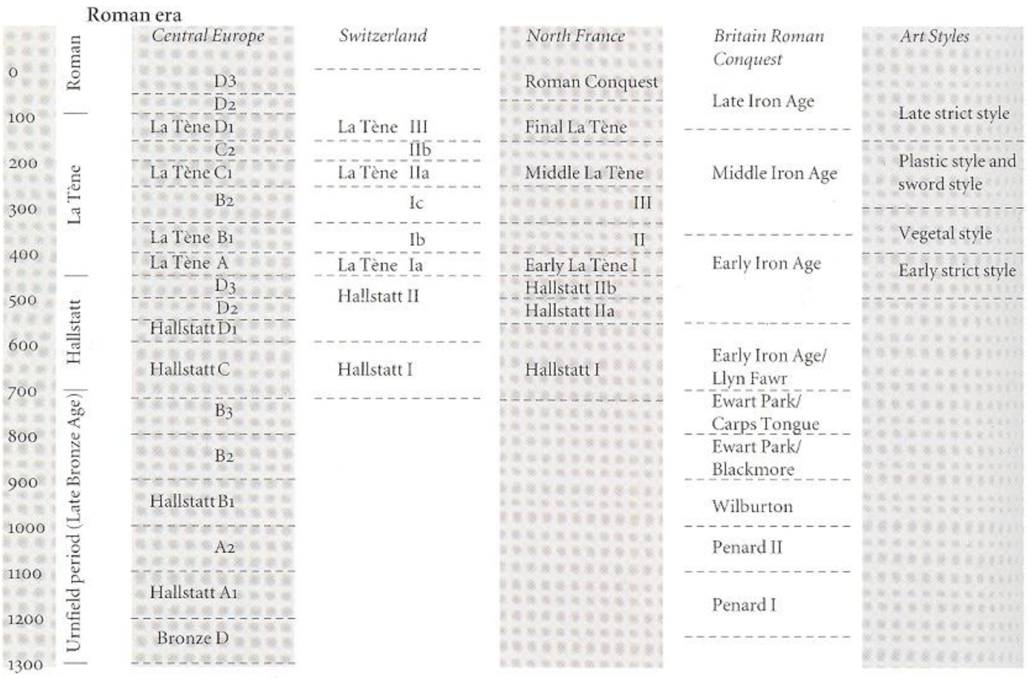


Fig. 6.10 Chronological frameworks in western and central Europe, 1300 BC to the Roman period, and the correlation between them (source: Cunliffe 1997)

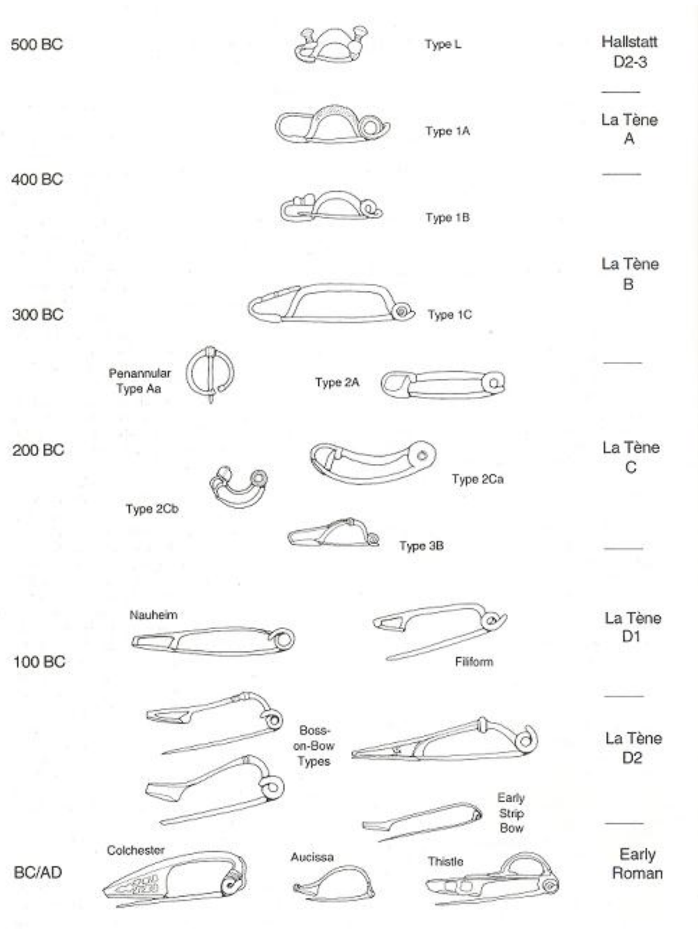


Fig. 6.11 Chronology of Iron Age brooches in Britain (source: Haselgrove 1997)

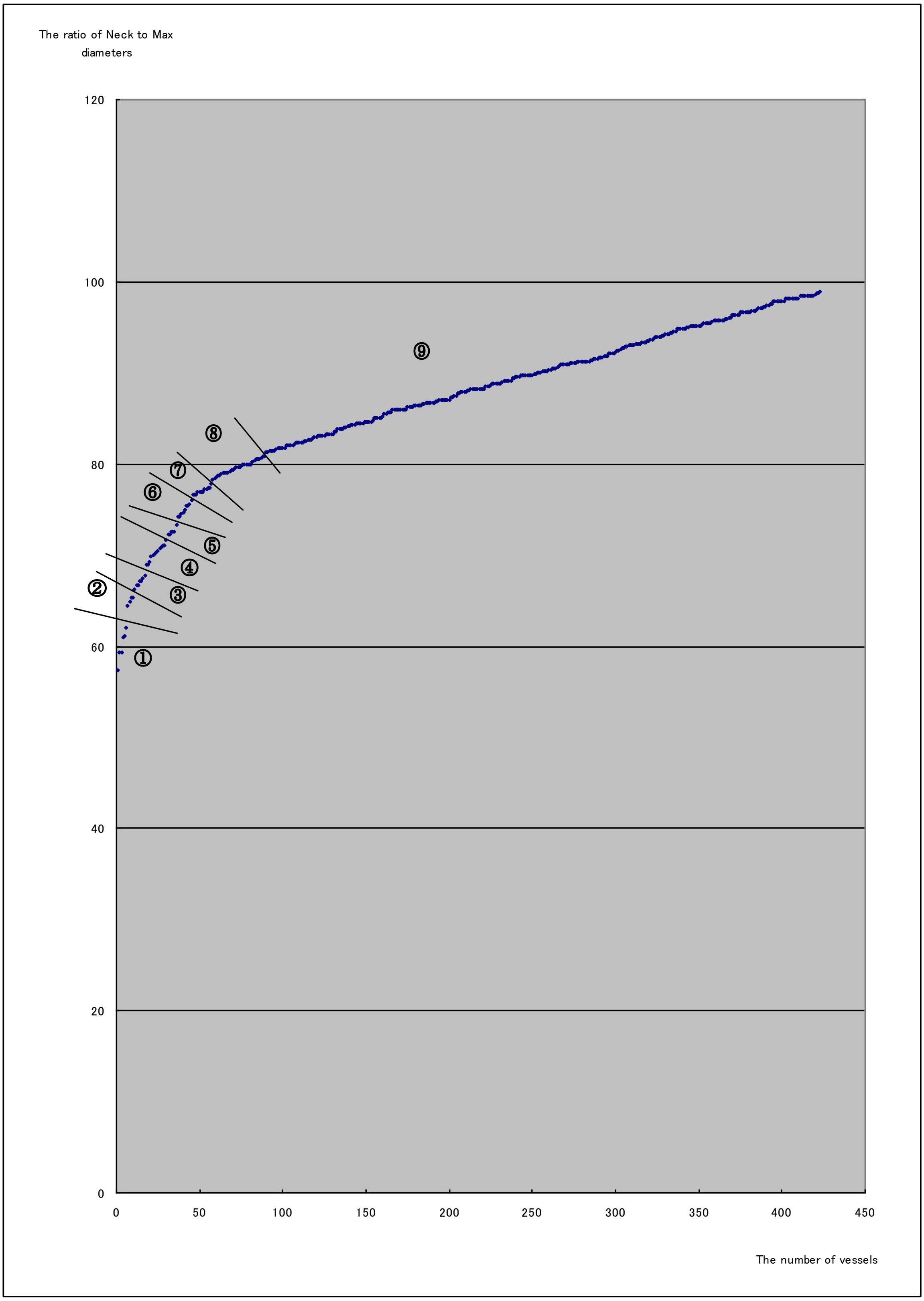


Fig. 6.12 The ratios of the neck diameters to max diameters of Iron Age vessels from Danebury

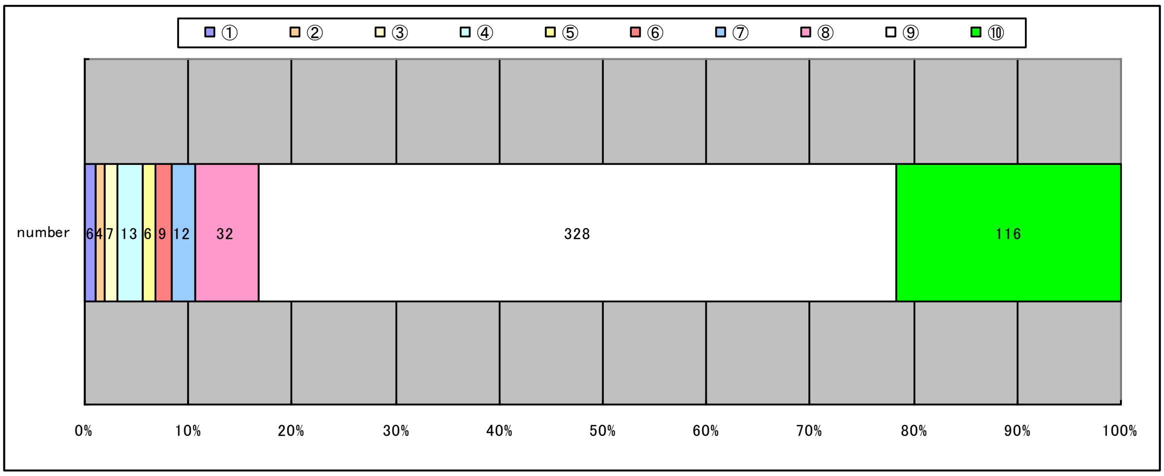


Fig. 6.13 The percentage of each Category of Iron Age vessels from Danebury

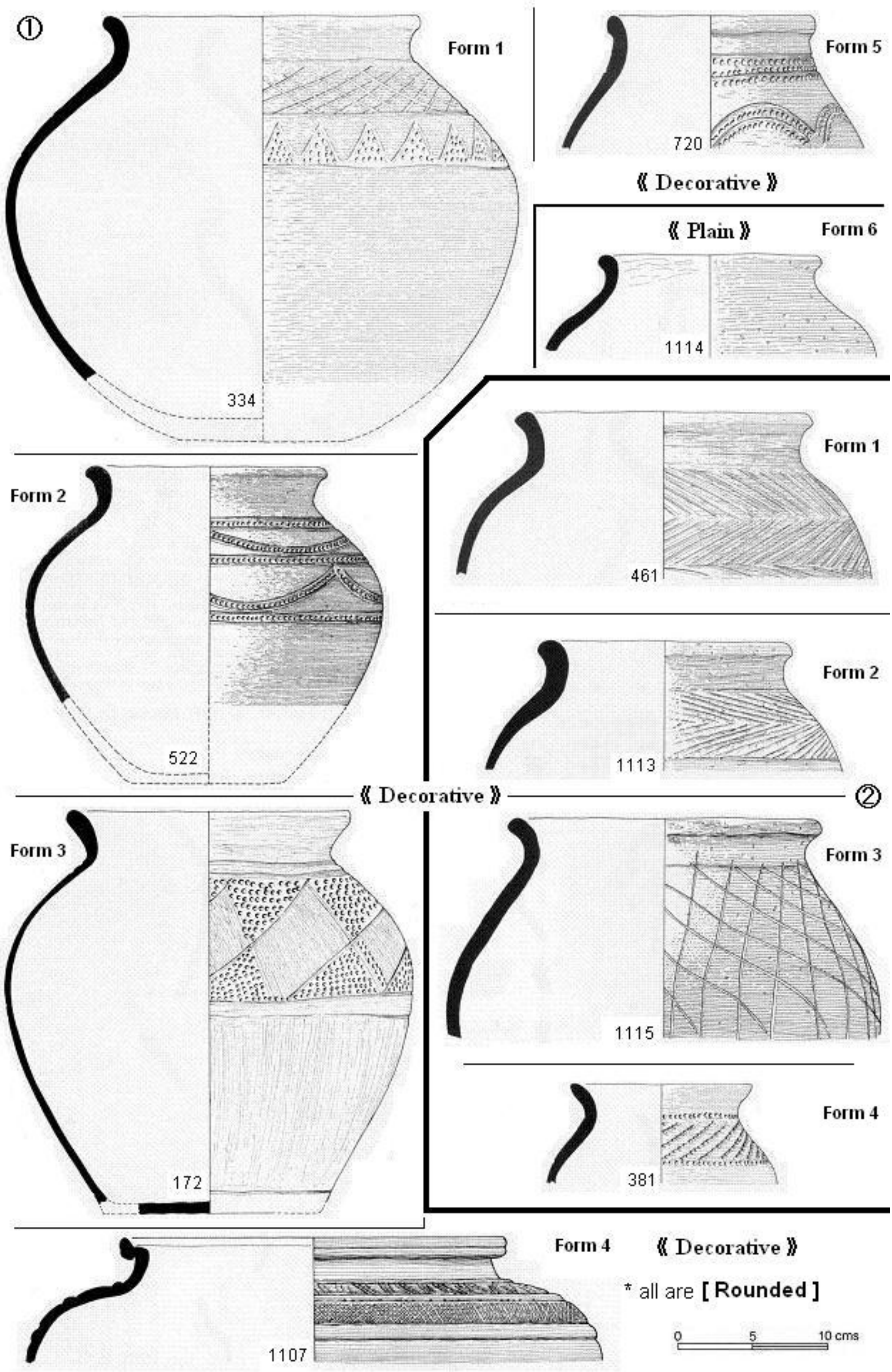


Fig. 6.14 Typological classification of vessels from Danebury (Categories ①, ②)

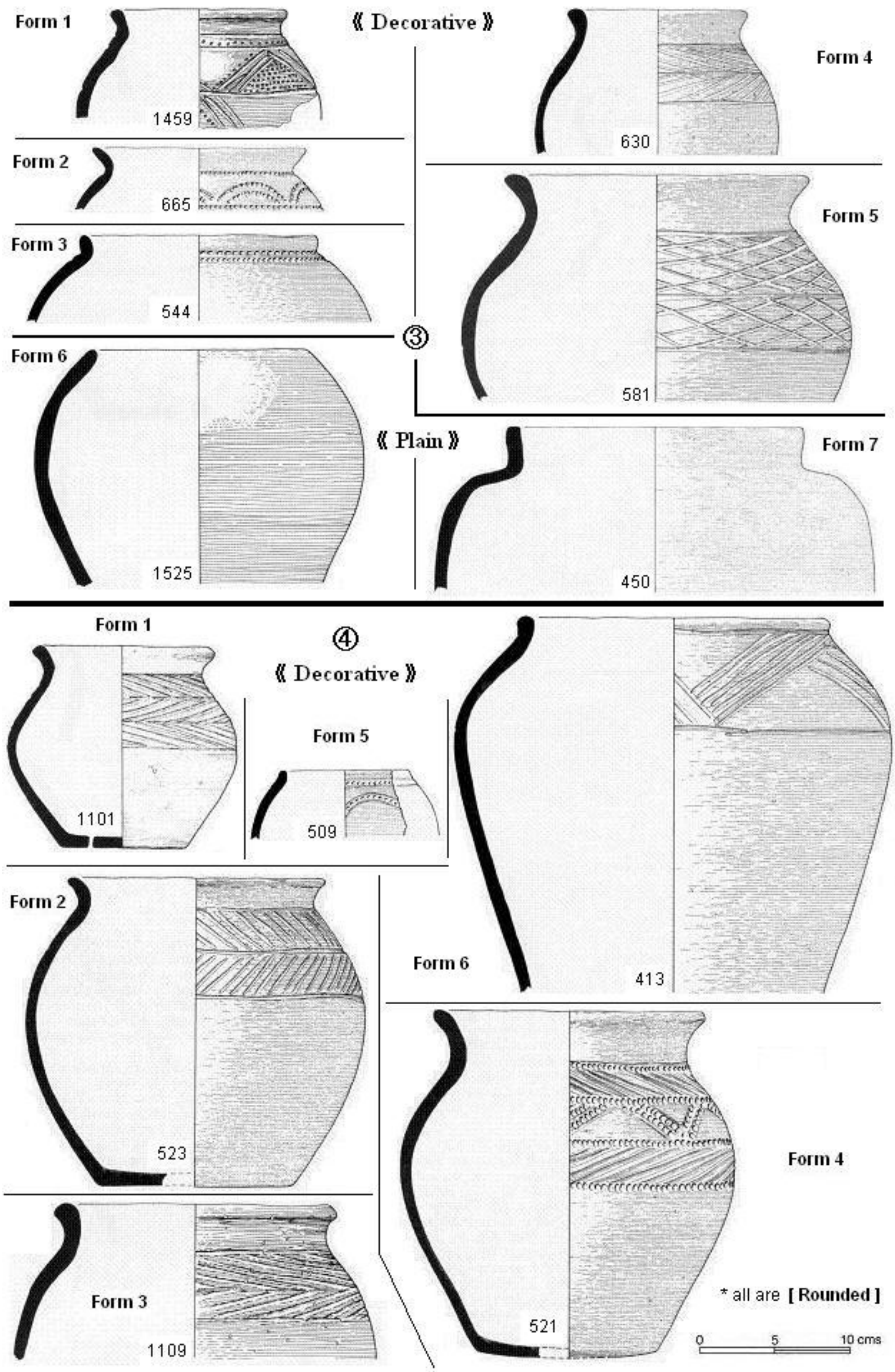


Fig. 6.15 Typological classification of vessels from Danebury (Categories ③, ④)

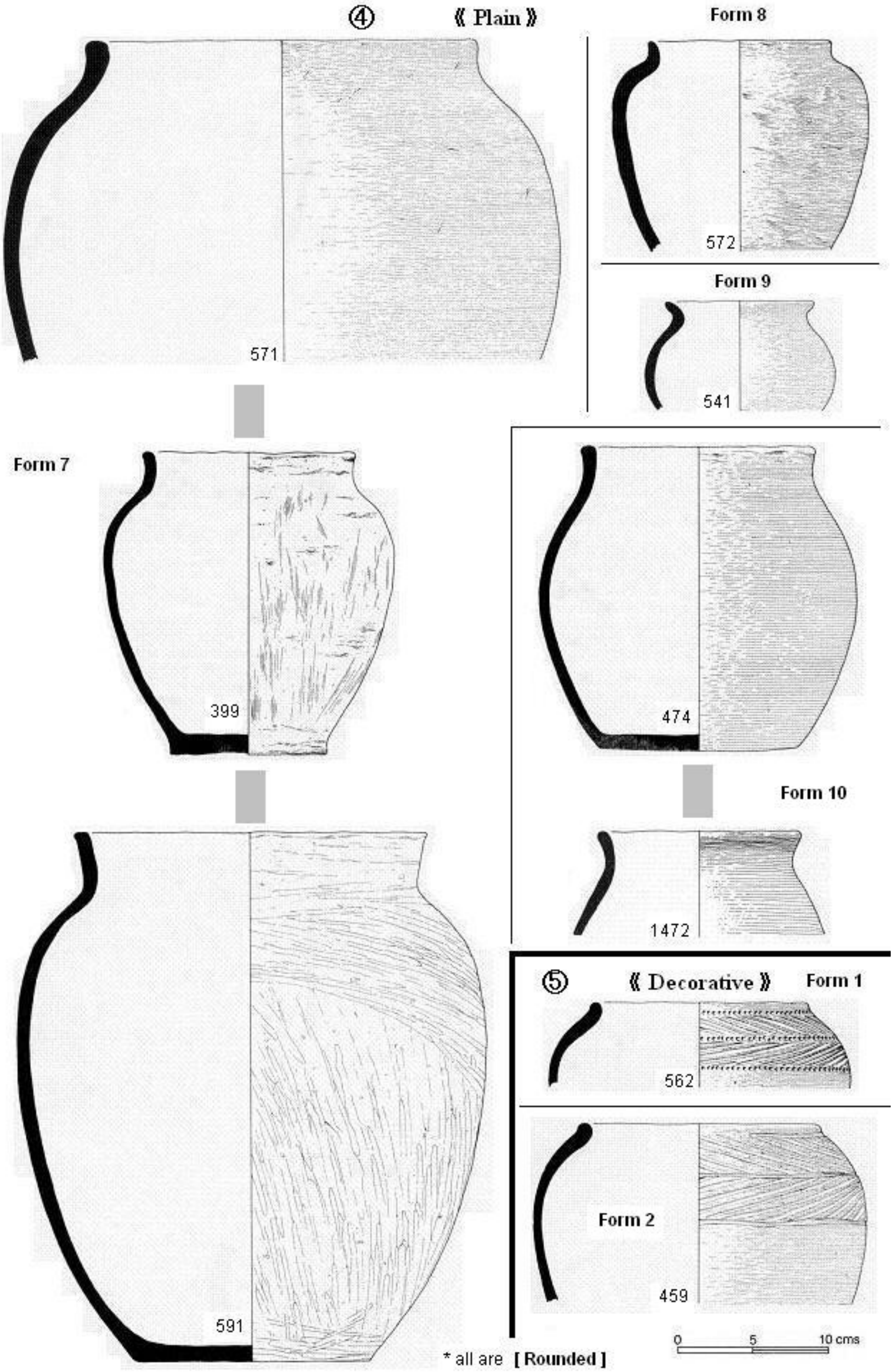


Fig. 6.16 Typological classification of vessels from Danebury (Categories ④, ⑤)

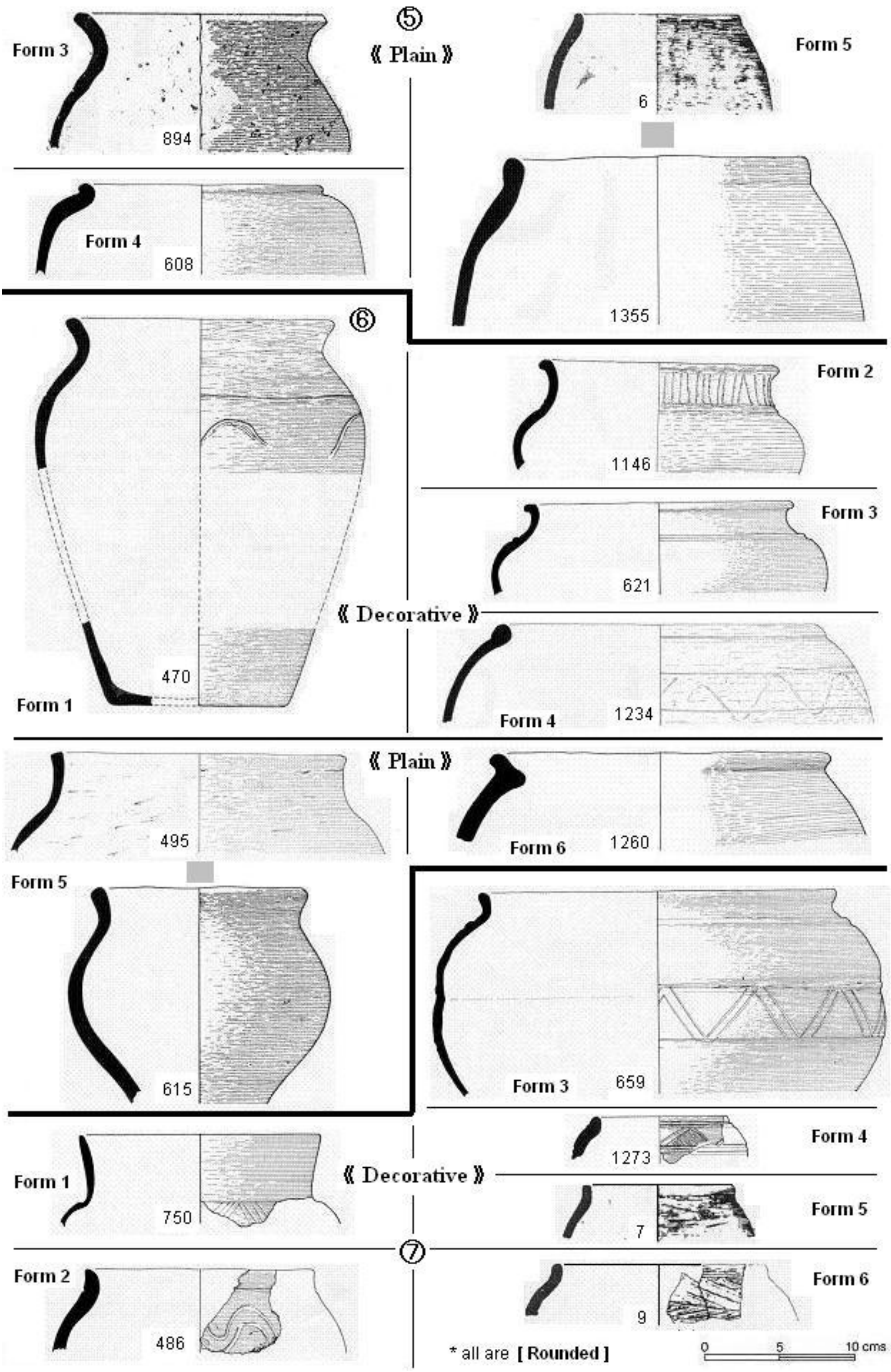


Fig. 6.17 Typological classification of vessels from Danebury (Categories ⑤, ⑥, ⑦)

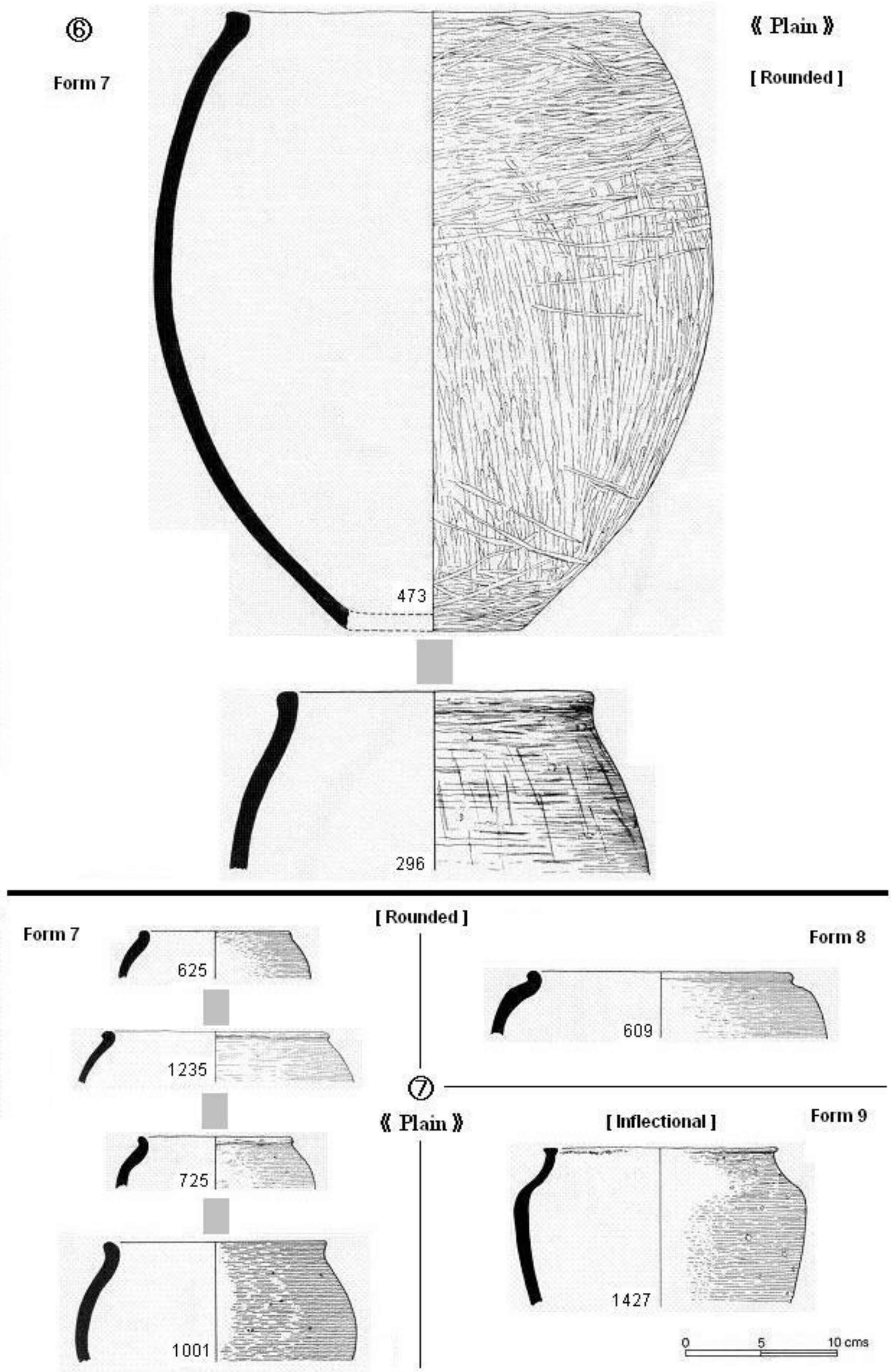


Fig. 6.18 Typological classification of vessels from Danebury (Categories ⑥, ⑦)

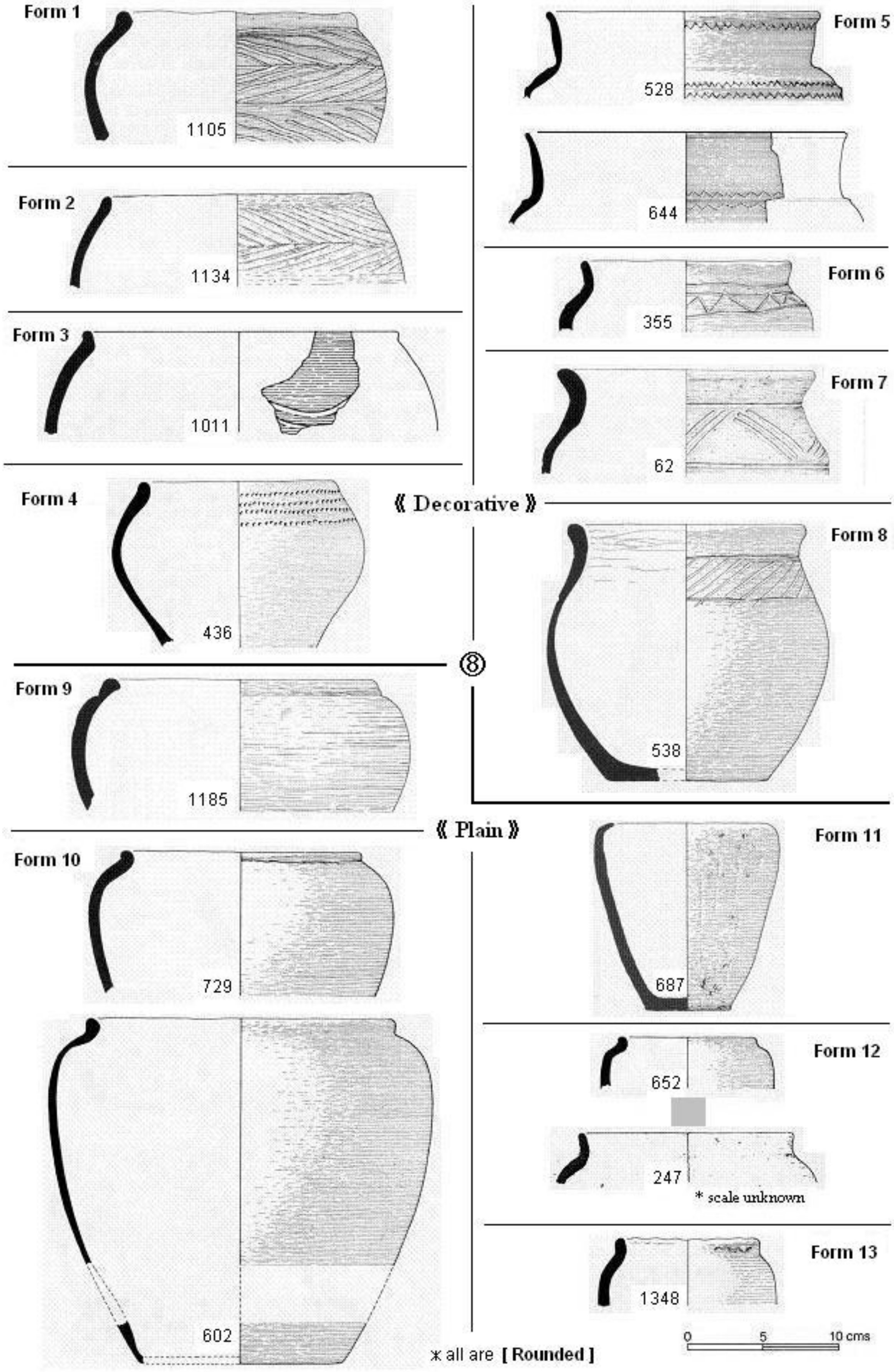


Fig. 6.19 Typological classification of vessels from Danebury (Category ⑧- 1)

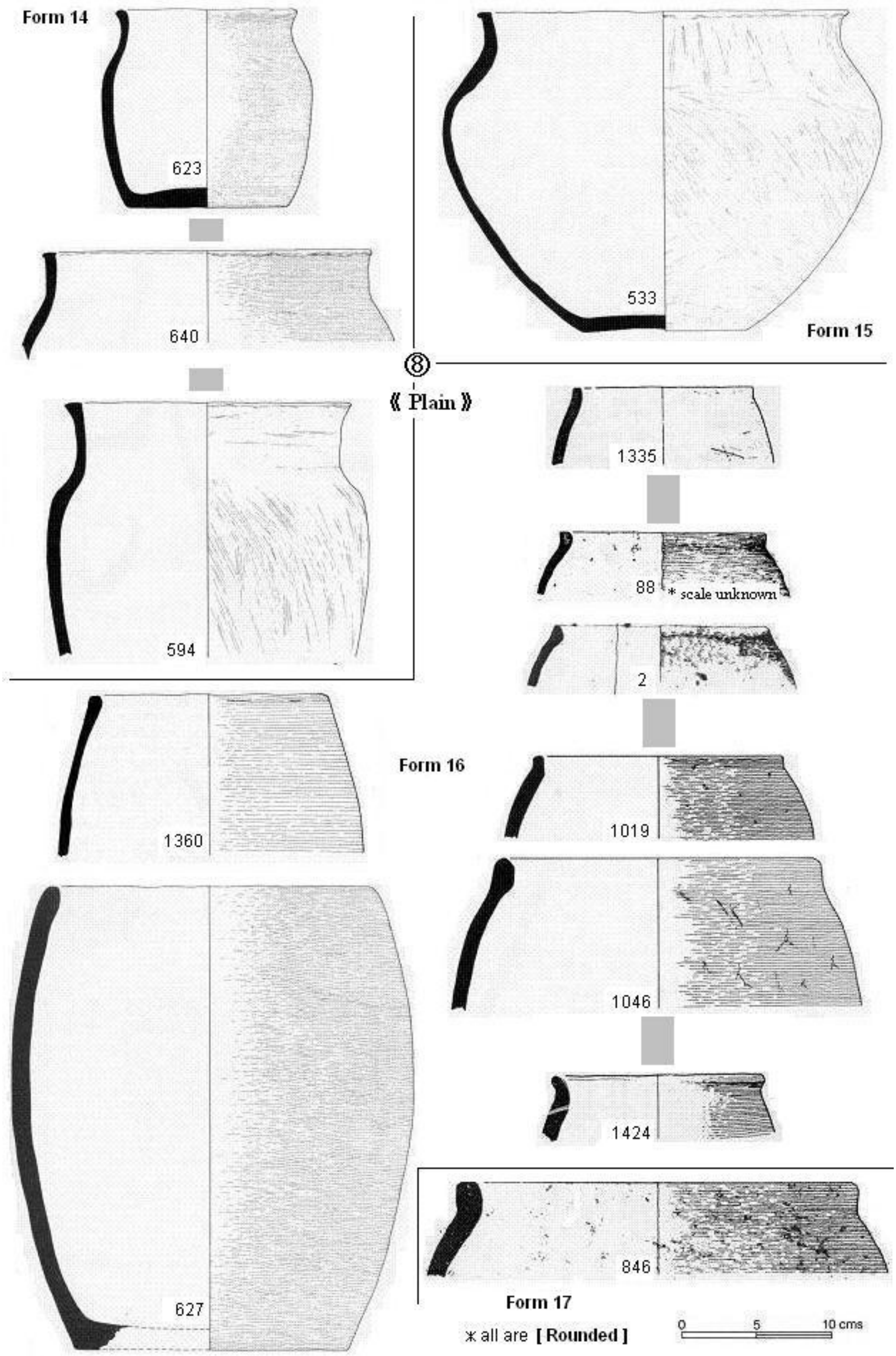


Fig. 6.20 Typological classification of vessels from Danebury (Category ⑧- 2)

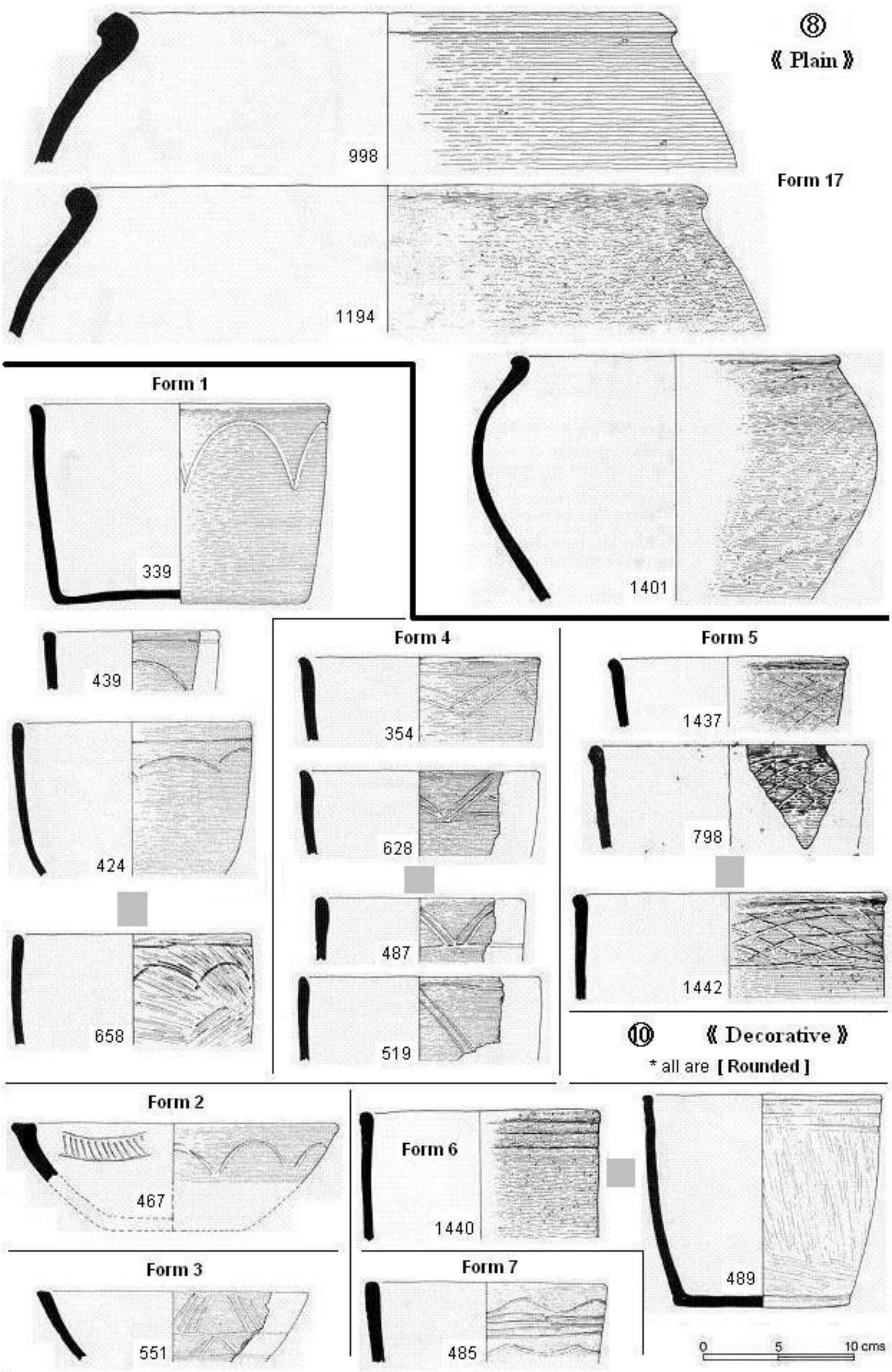


Fig. 6.21 Typological classification of vessels from Danebury (Category ⑧, ⑩)

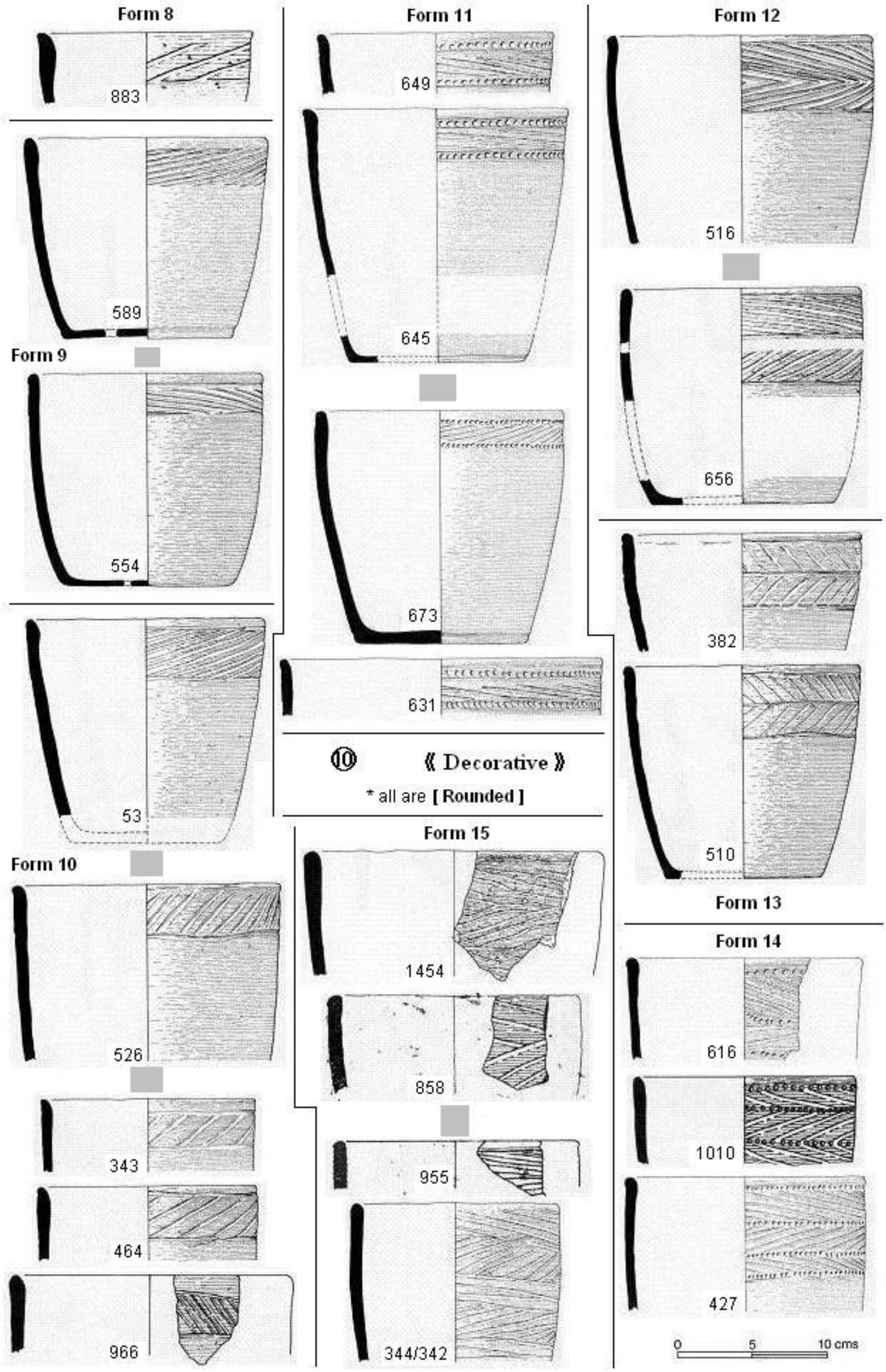


Fig. 6.22 Typological classification of vessels from Danebury (Category ⑩- 1)

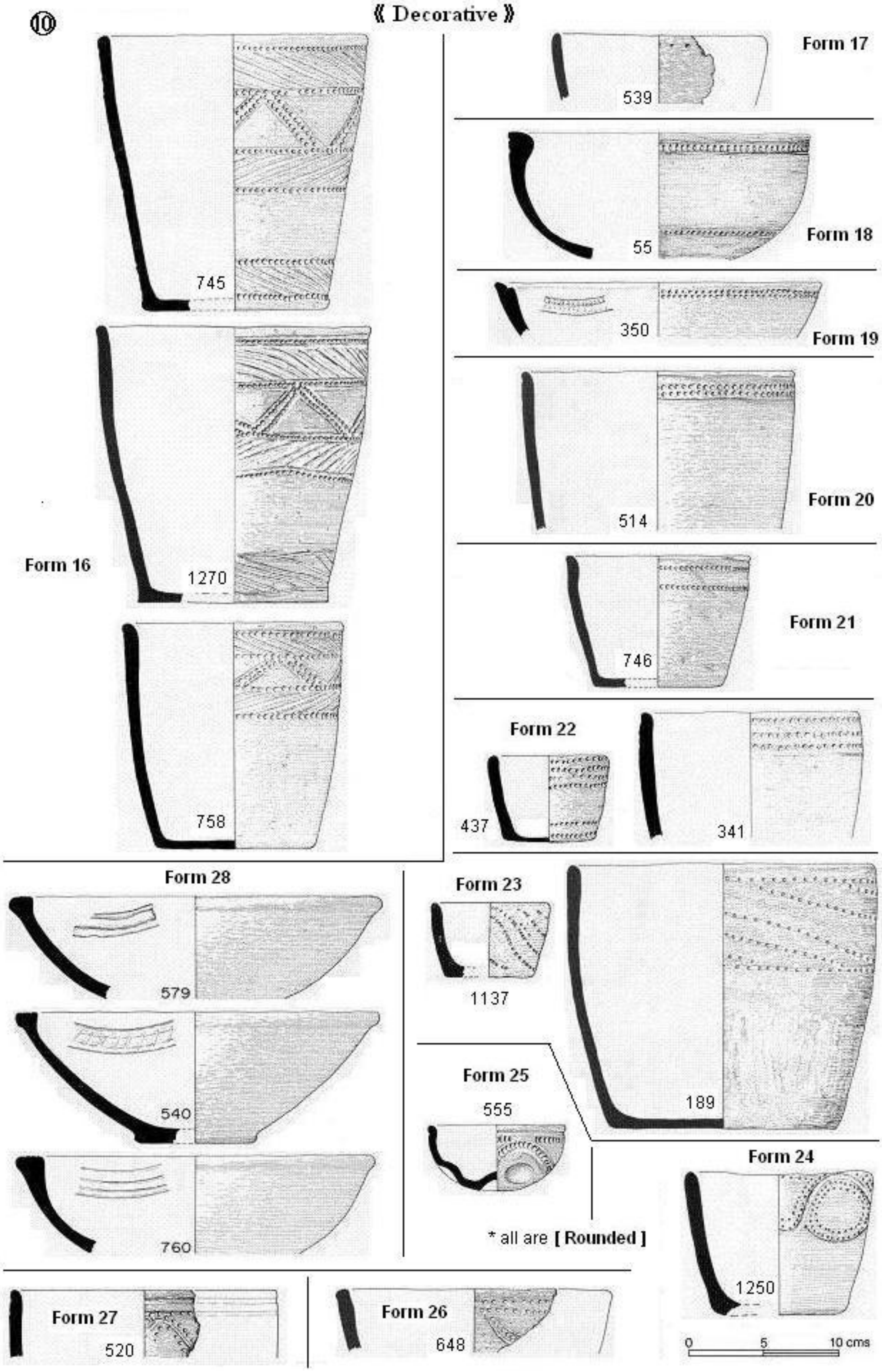


Fig. 6.23 Typological classification of vessels from Danebury (Category ⑩- 2)

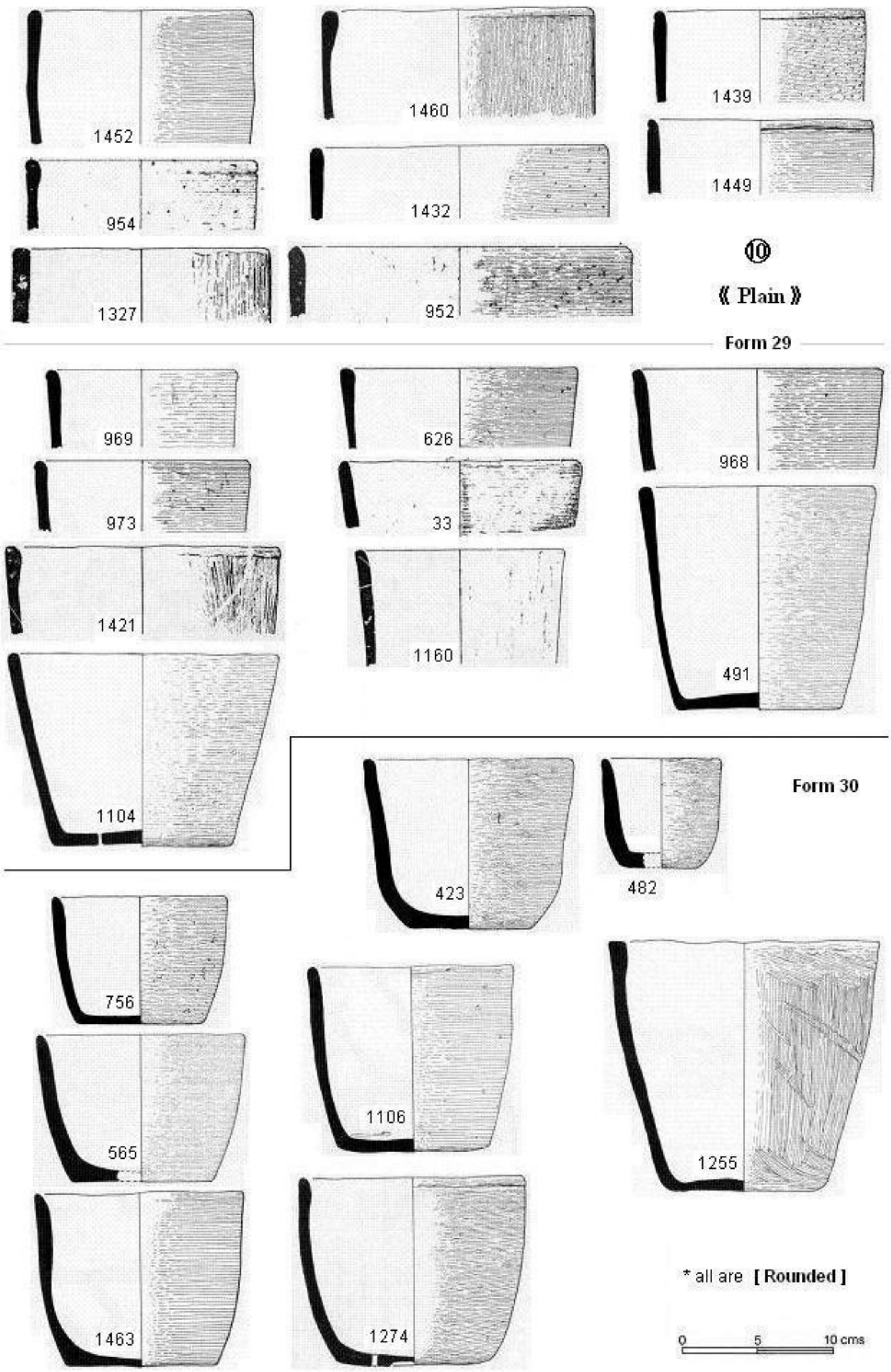


Fig. 6.24 Typological classification of vessels from Danebury (Category ⑩- 3)

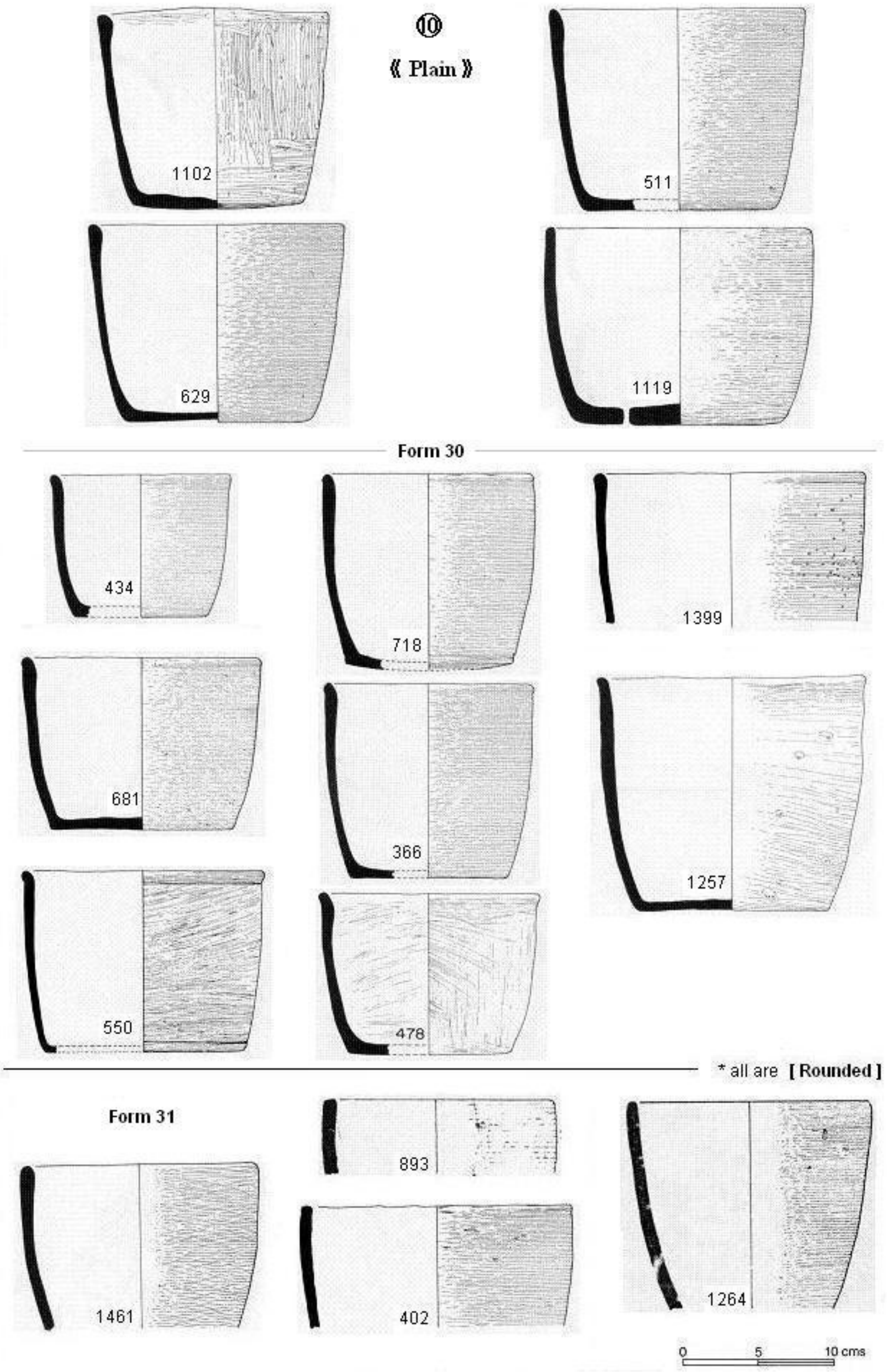


Fig. 6.25 Typological classification of vessels from Danebury (Category ⑩- 4)

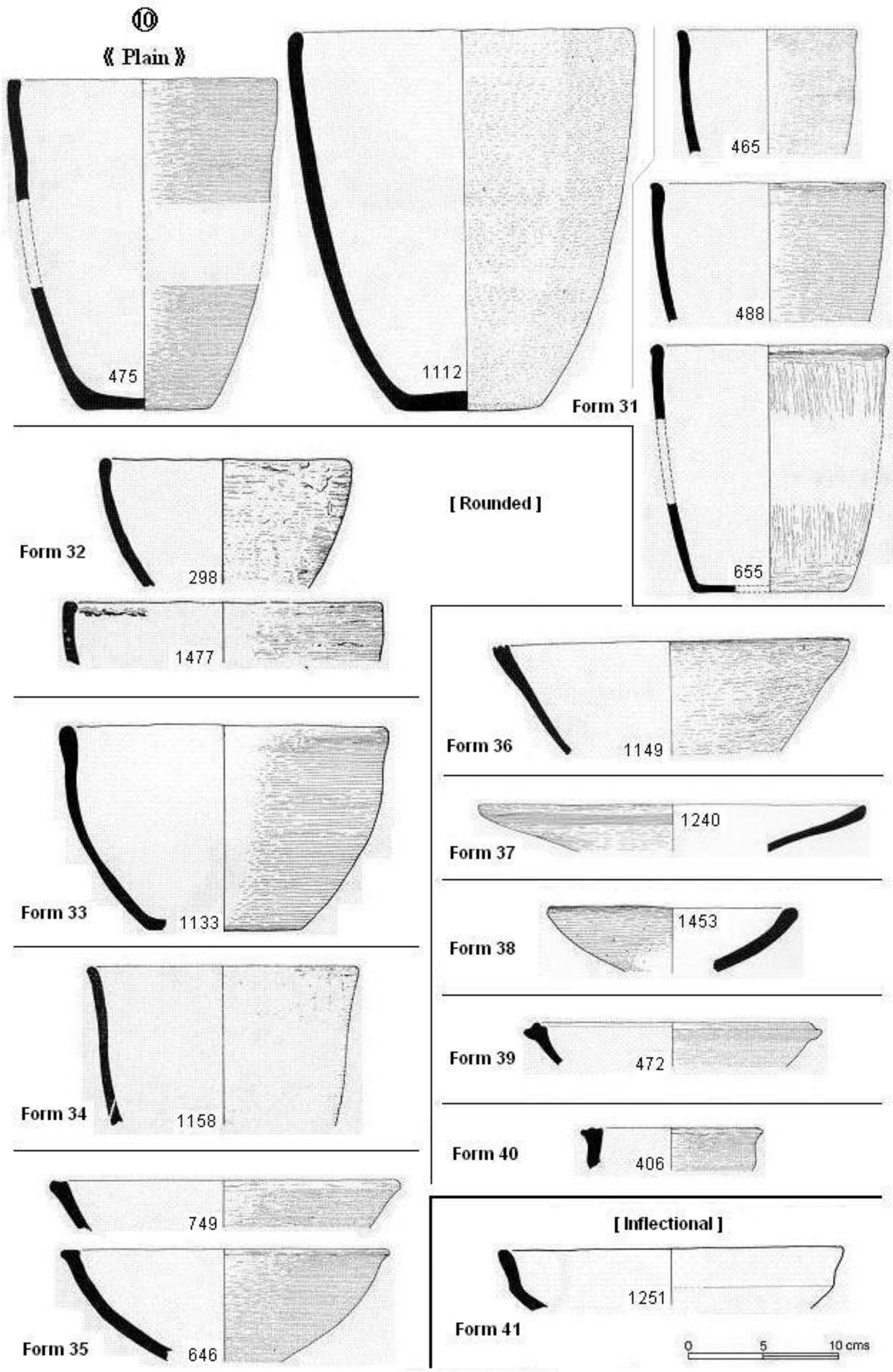


Fig. 6.26 Typological classification of vessels from Danebury (Category ⑩- 5)

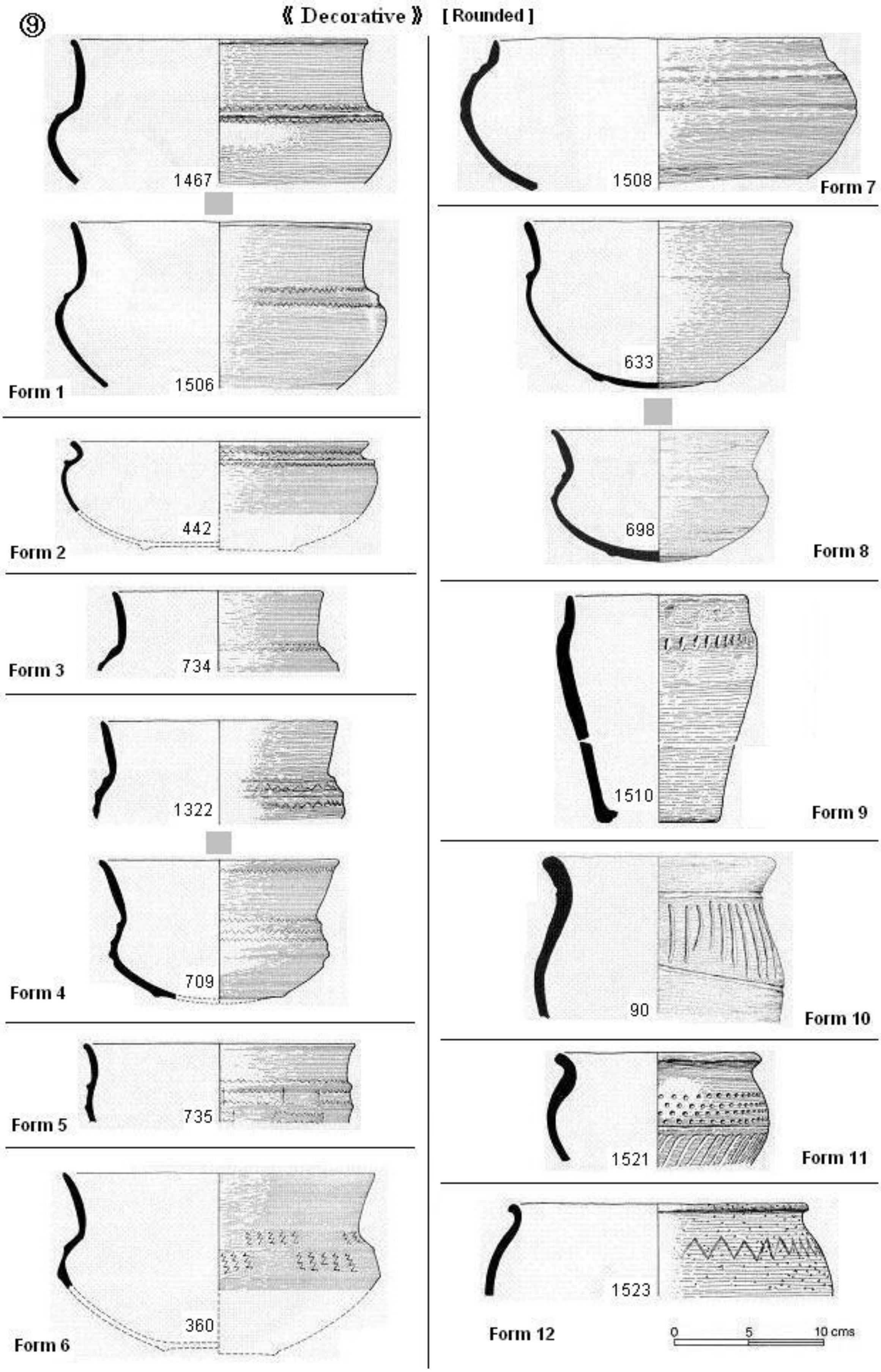


Fig. 6.27 Typological classification of vessels from Danebury (Category ⑨- 1)

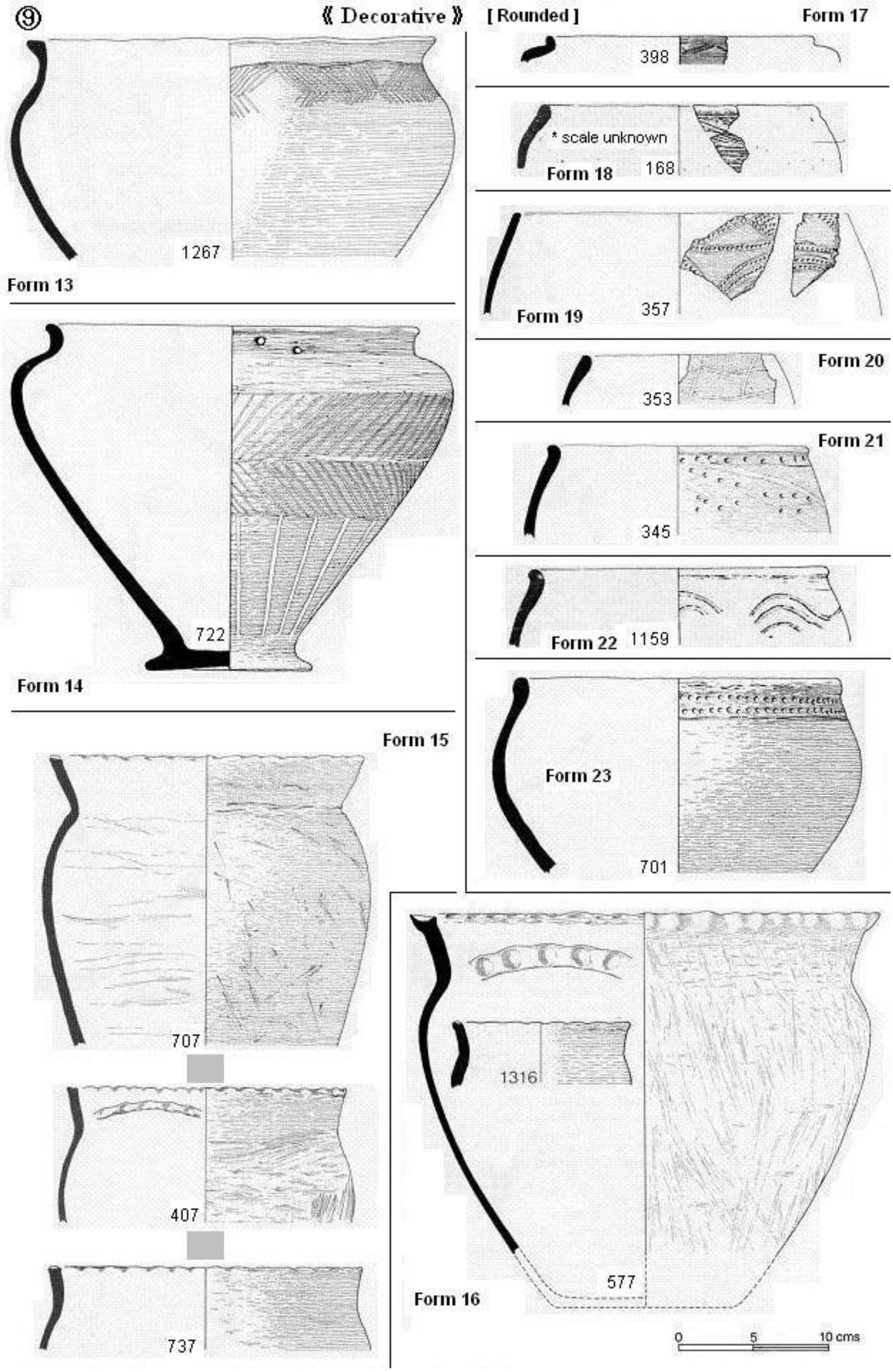


Fig. 6.28 Typological classification of vessels from Danebury (Category ⑨- 2)

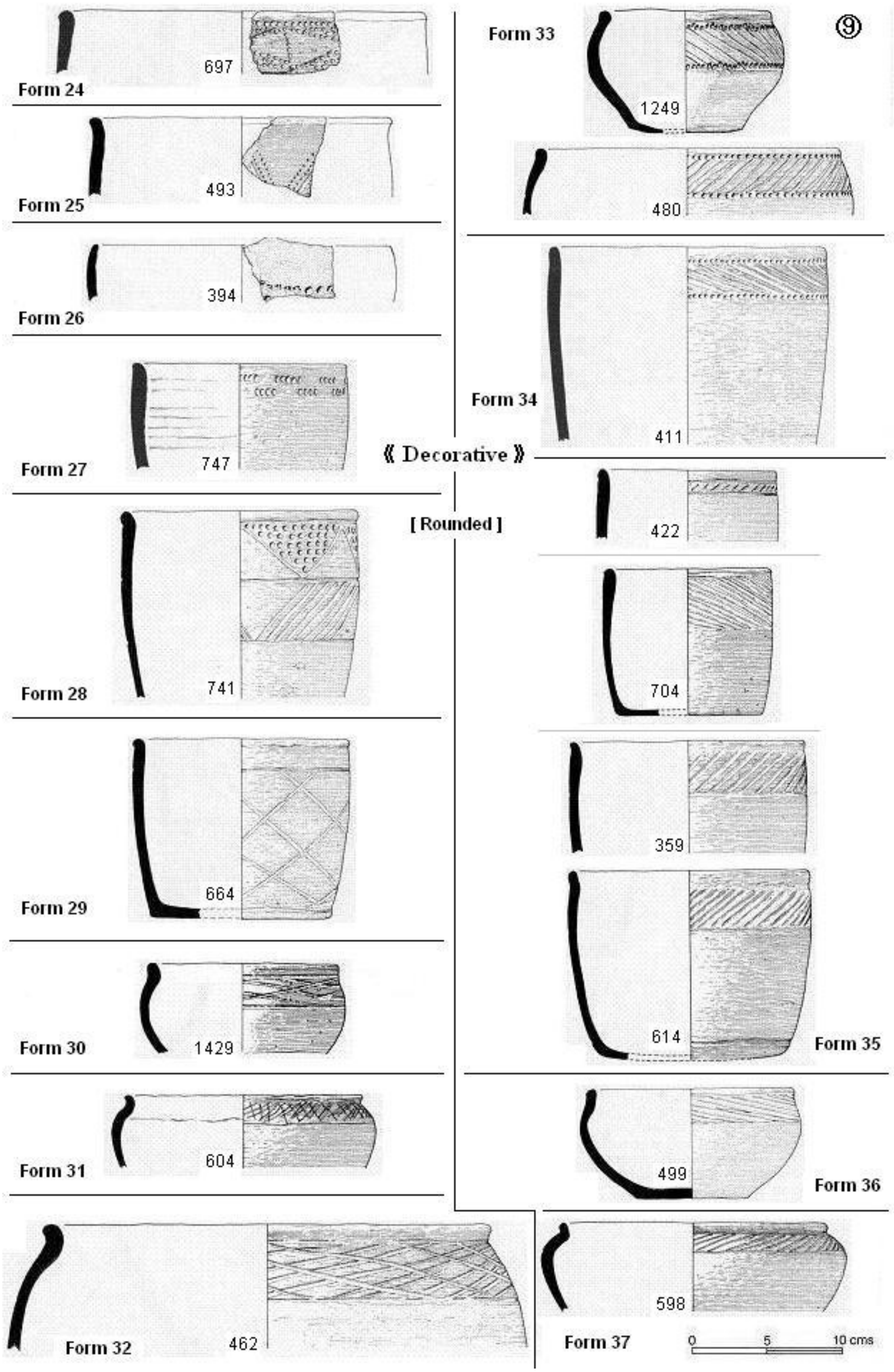


Fig. 6.29 Typological classification of vessels from Danebury (Category ⑨- 3)

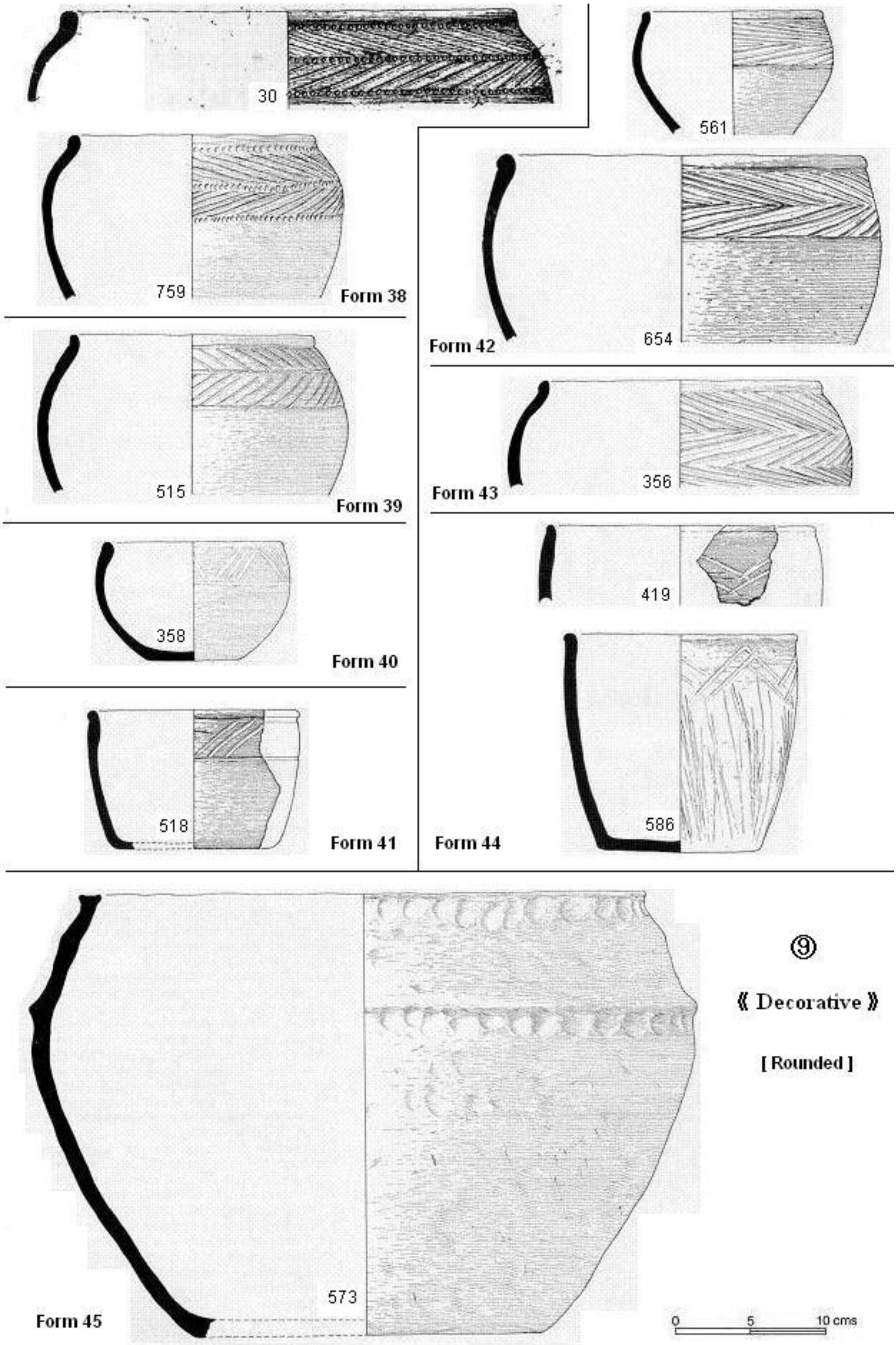


Fig. 6.30 Typological classification of vessels from Danebury (Category ⑨- 4)

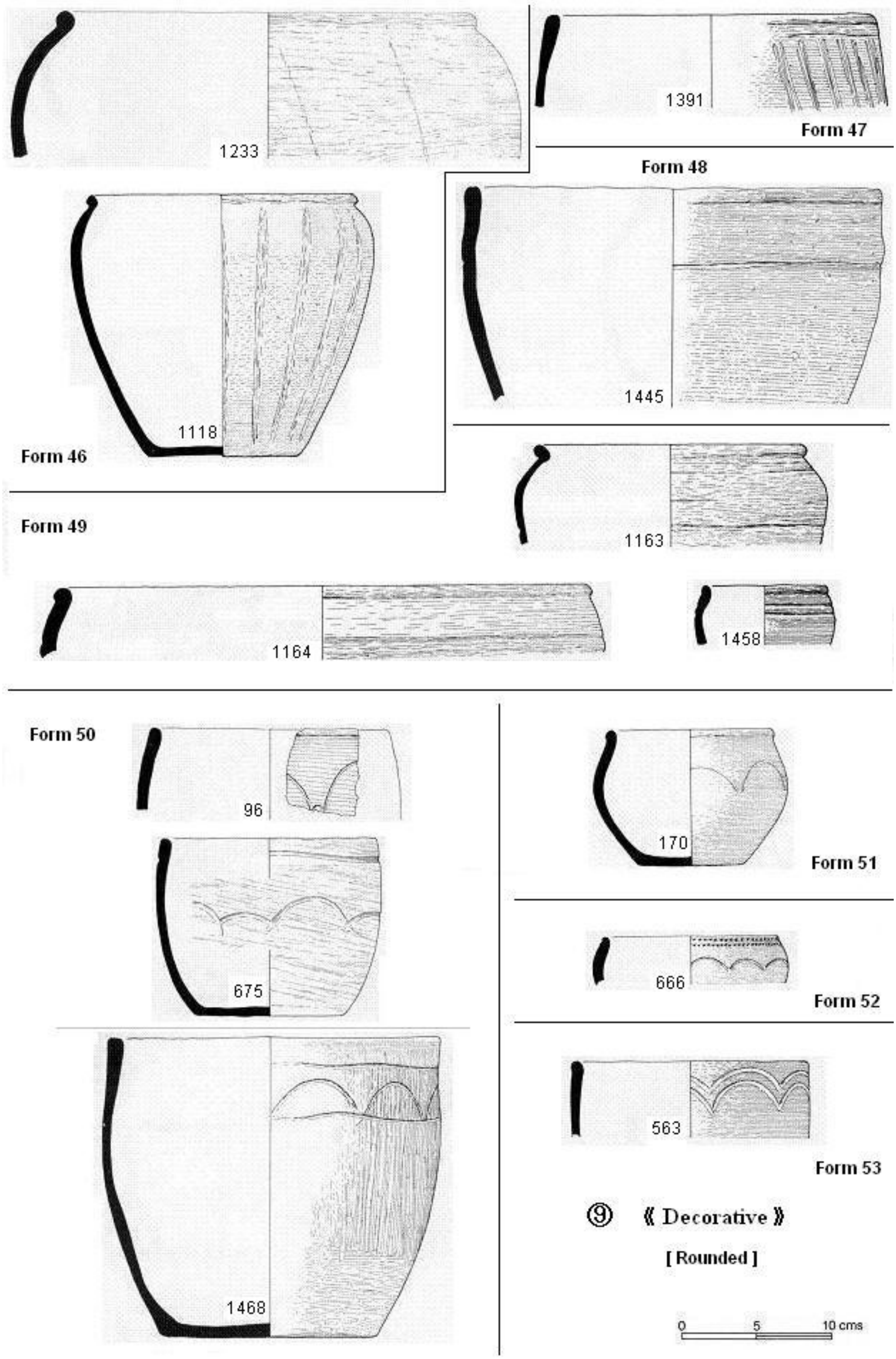


Fig. 6.31 Typological classification of vessels from Danebury (Category ⑨- 5)

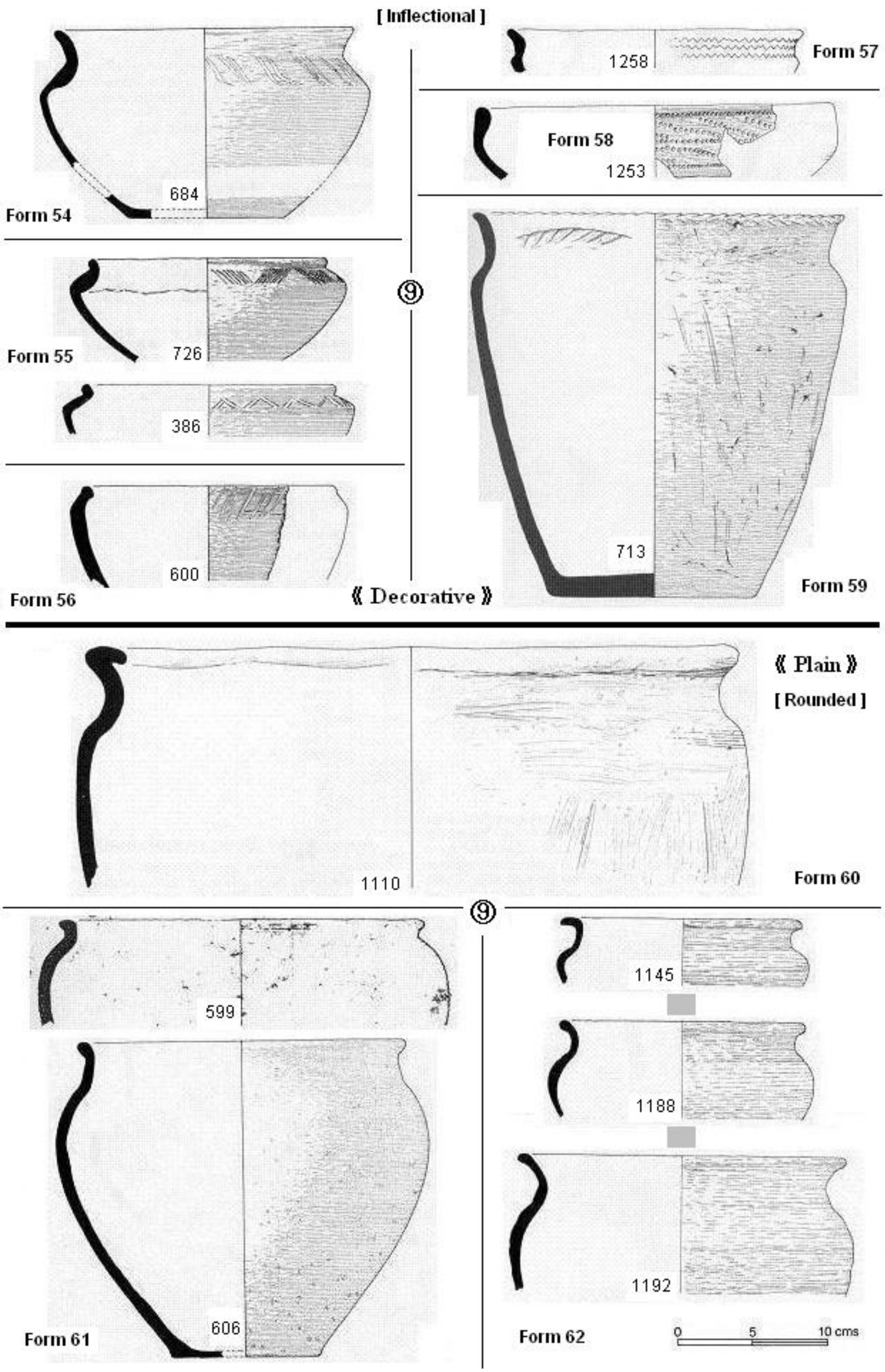


Fig. 6.32 Typological classification of vessels from Danebury (Category ⑨- 6)

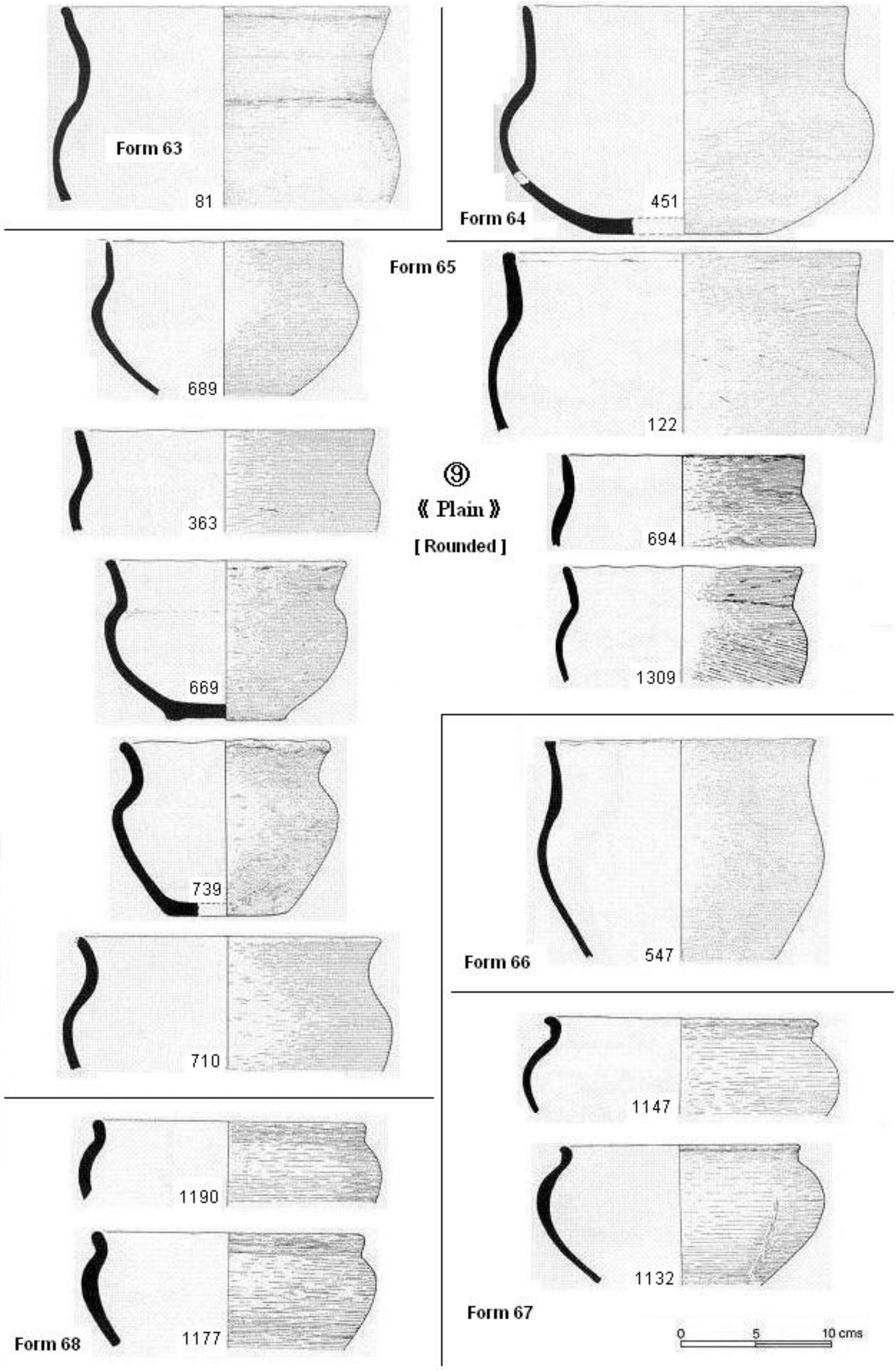


Fig. 6.33 Typological classification of vessels from Danebury (Category ⑨- 7)

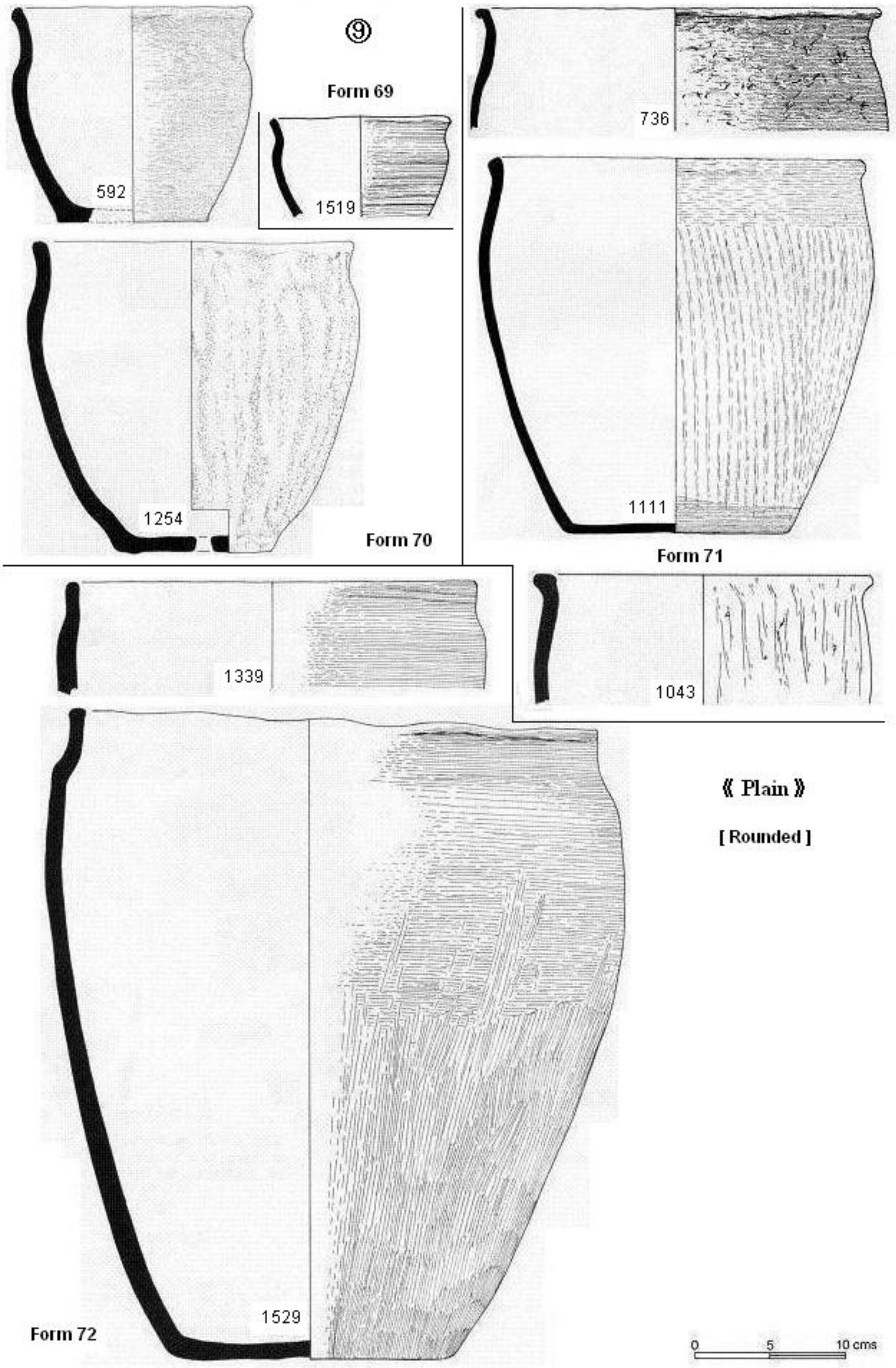


Fig. 6.34 Typological classification of vessels from Danebury (Category ⑨- 8)

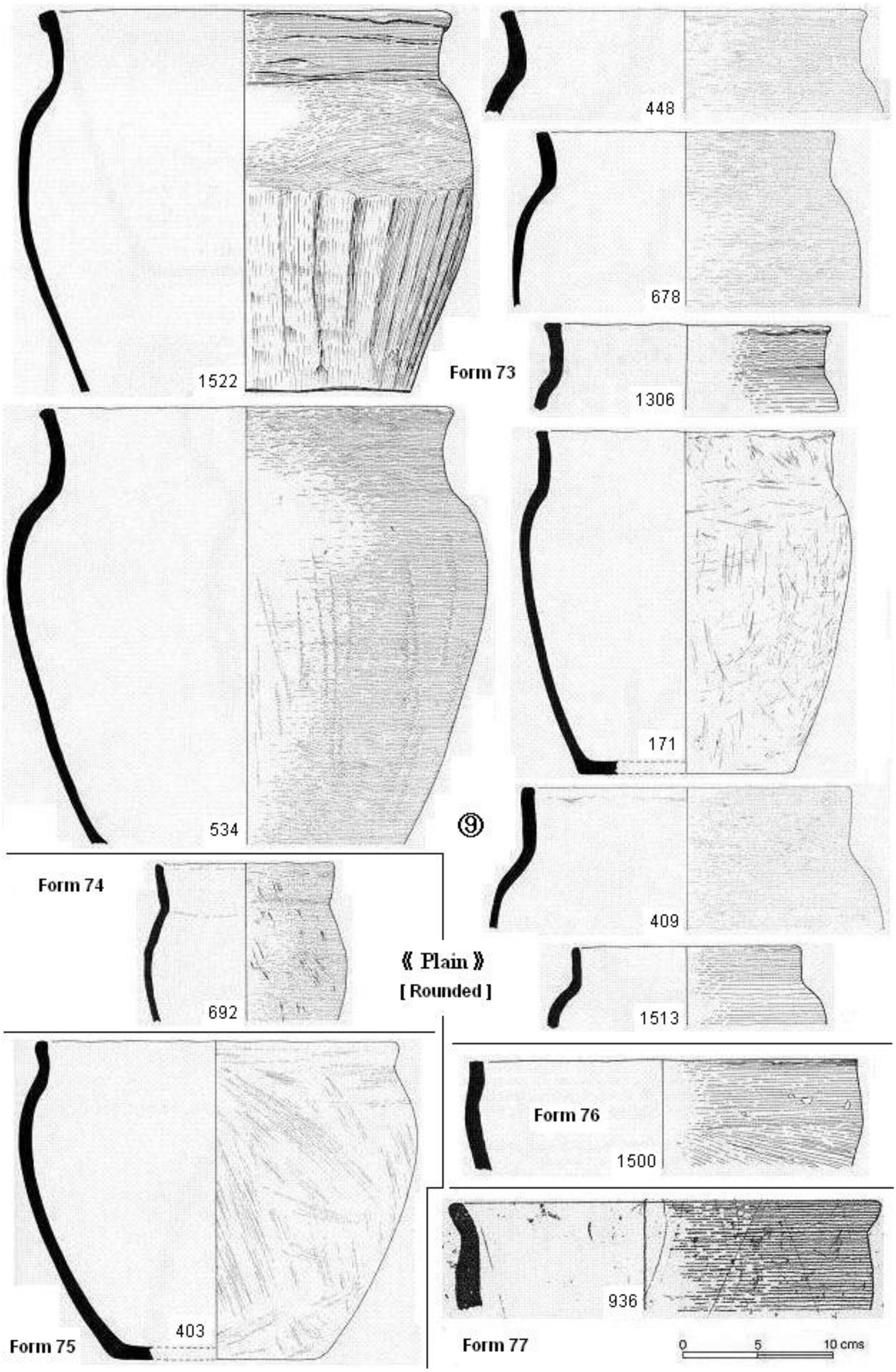


Fig. 6.35 Typological classification of vessels from Danebury (Category ⑨- 9)

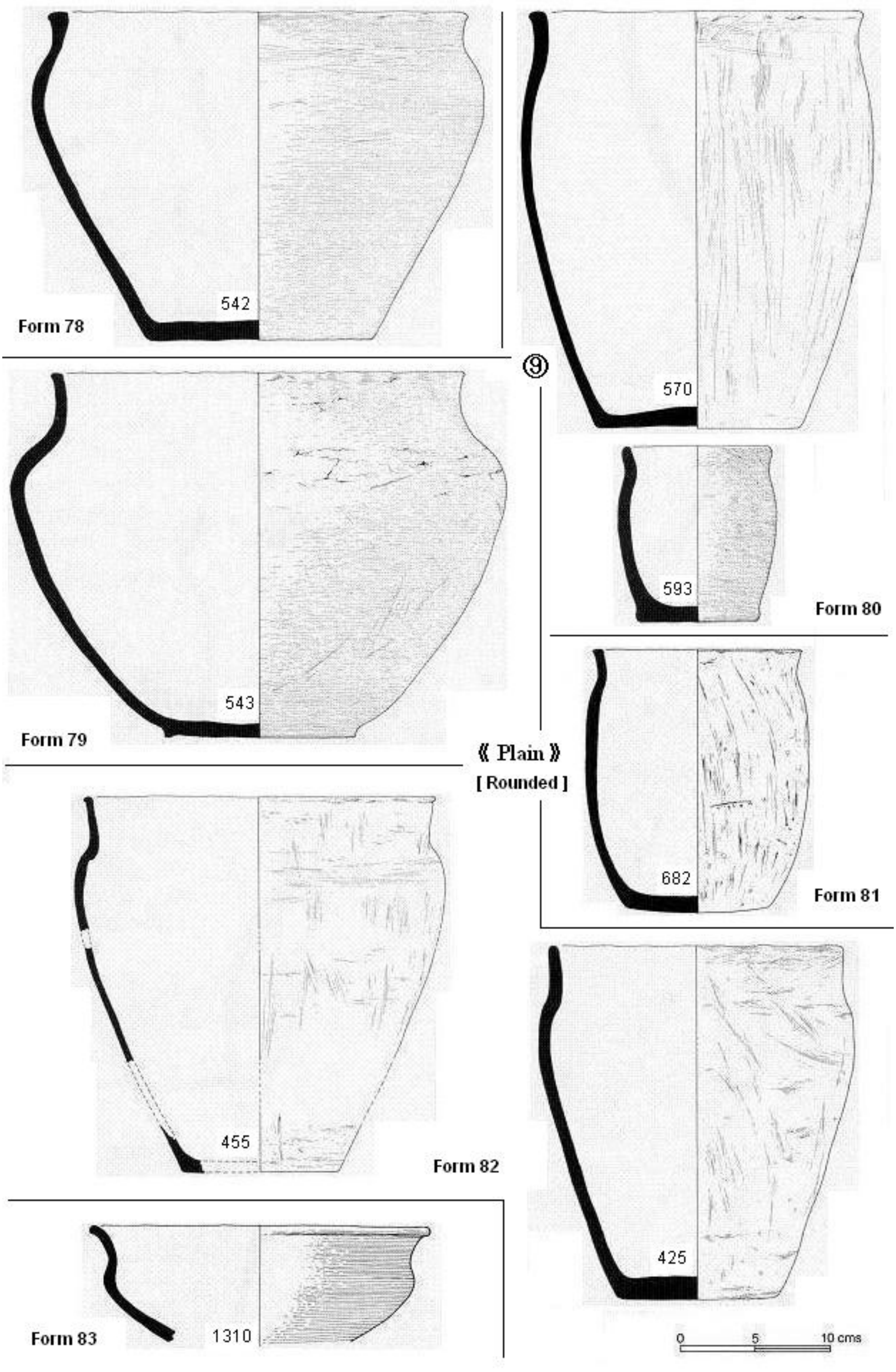


Fig. 6.36 Typological classification of vessels from Danebury (Category ⑨- 10)

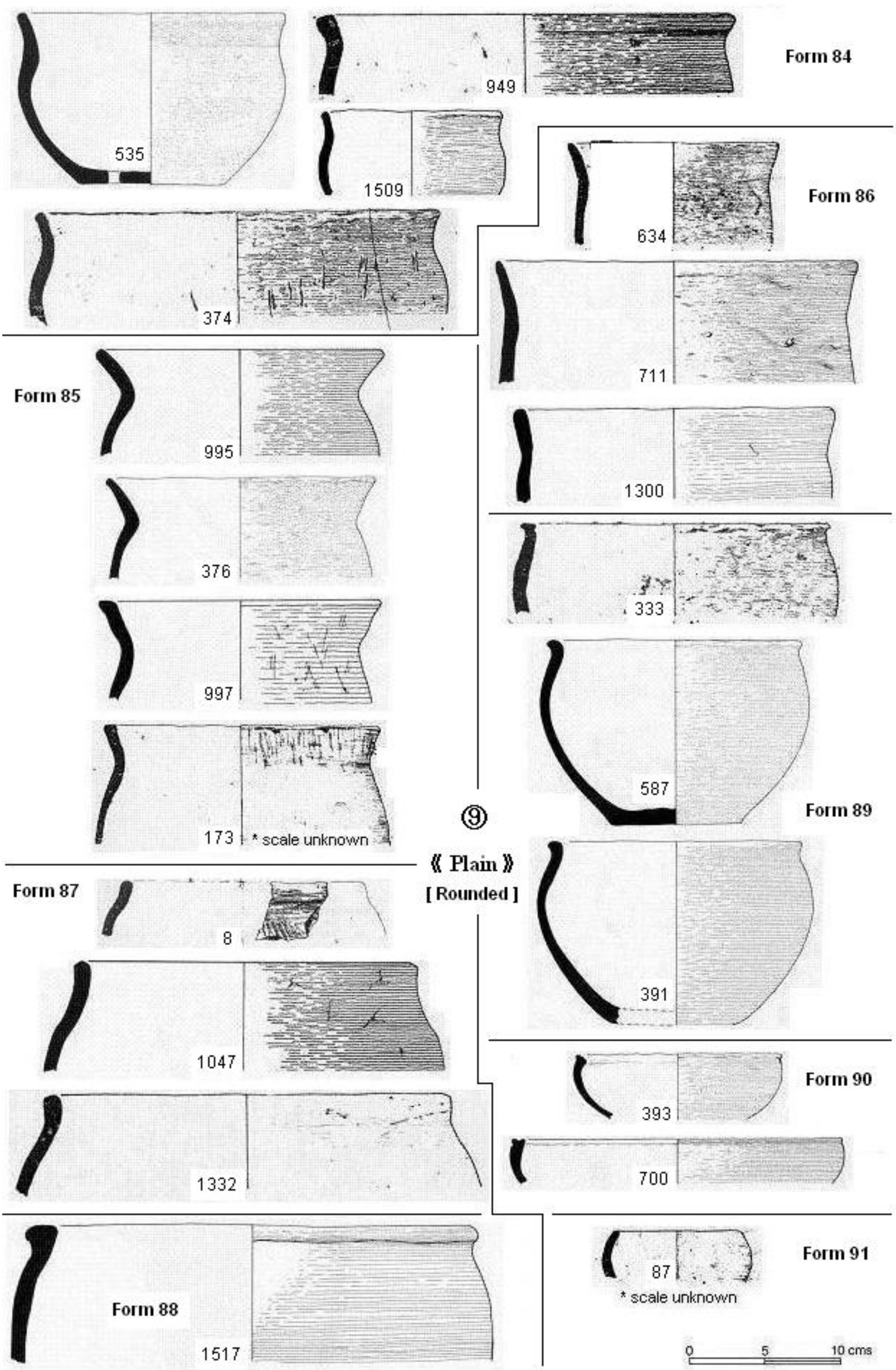


Fig. 6.37 Typological classification of vessels from Danebury (Category ⑨- 11)

⑨ 《 Plain 》 [Rounded]

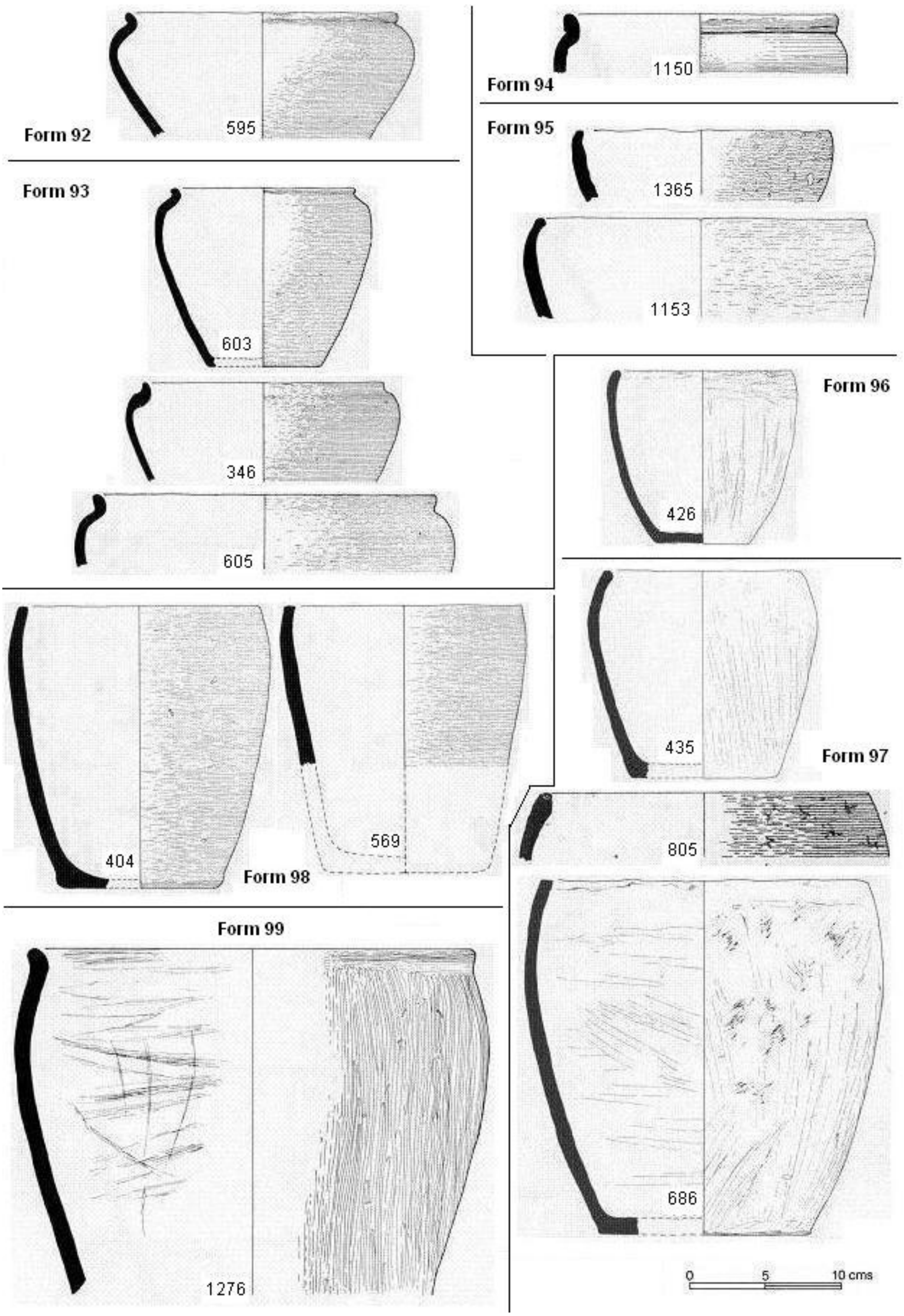


Fig. 6.38 Typological classification of vessels from Danebury (Category ⑨- 12)

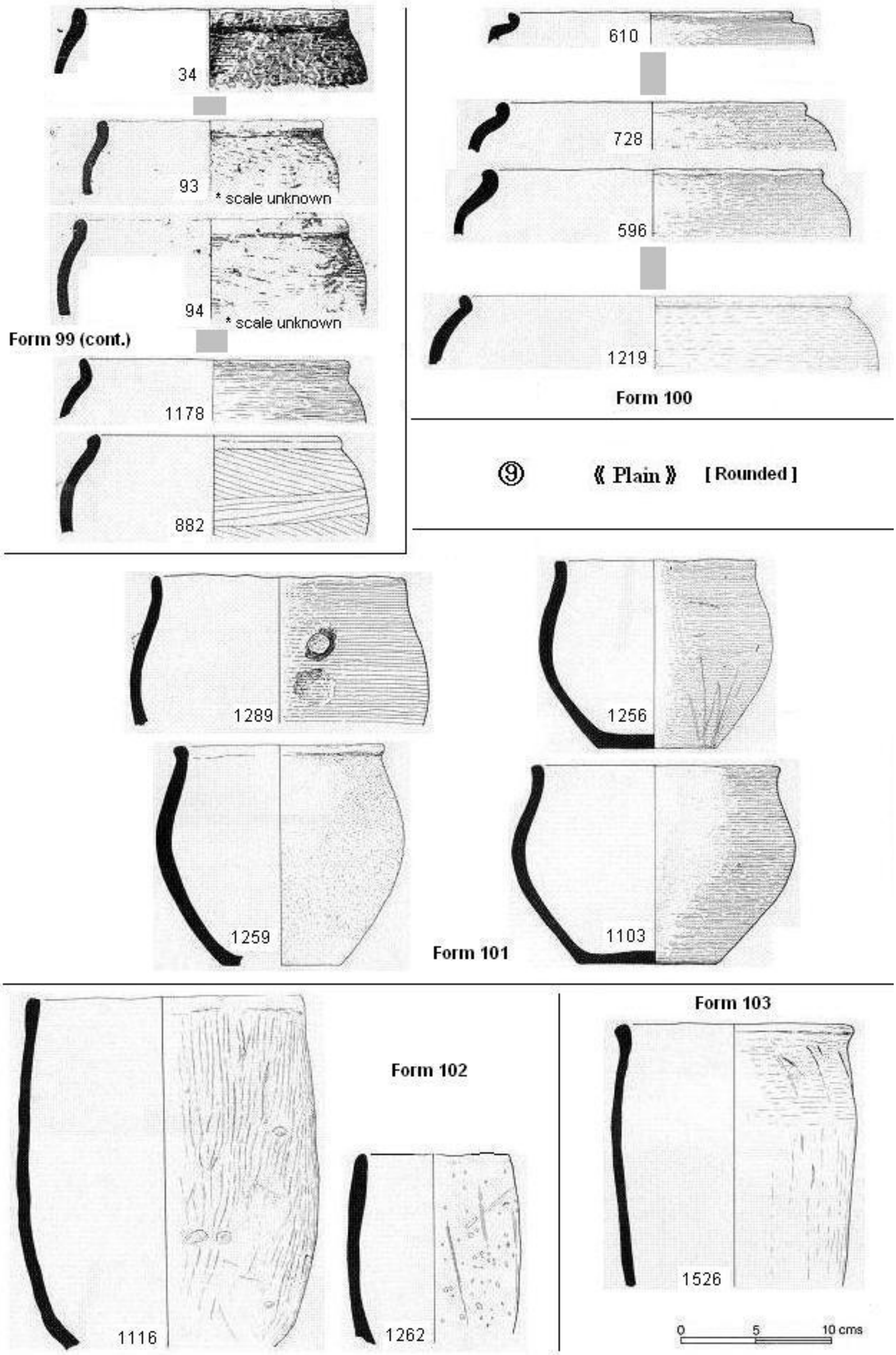


Fig. 6.39 Typological classification of vessels from Danebury (Category ⑨- 13)

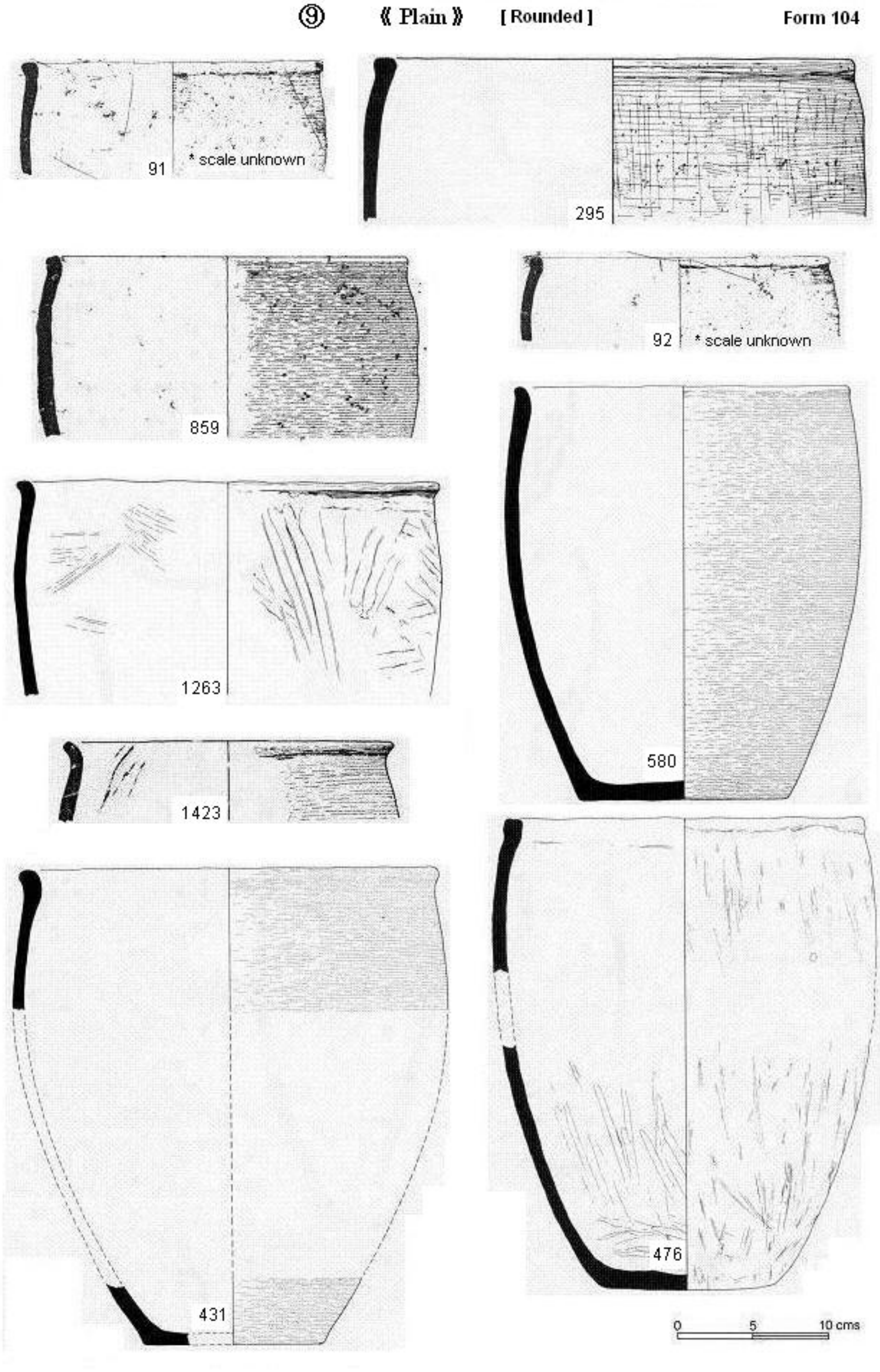


Fig. 6.40 Typological classification of vessels from Danebury (Category ⑨- 14)

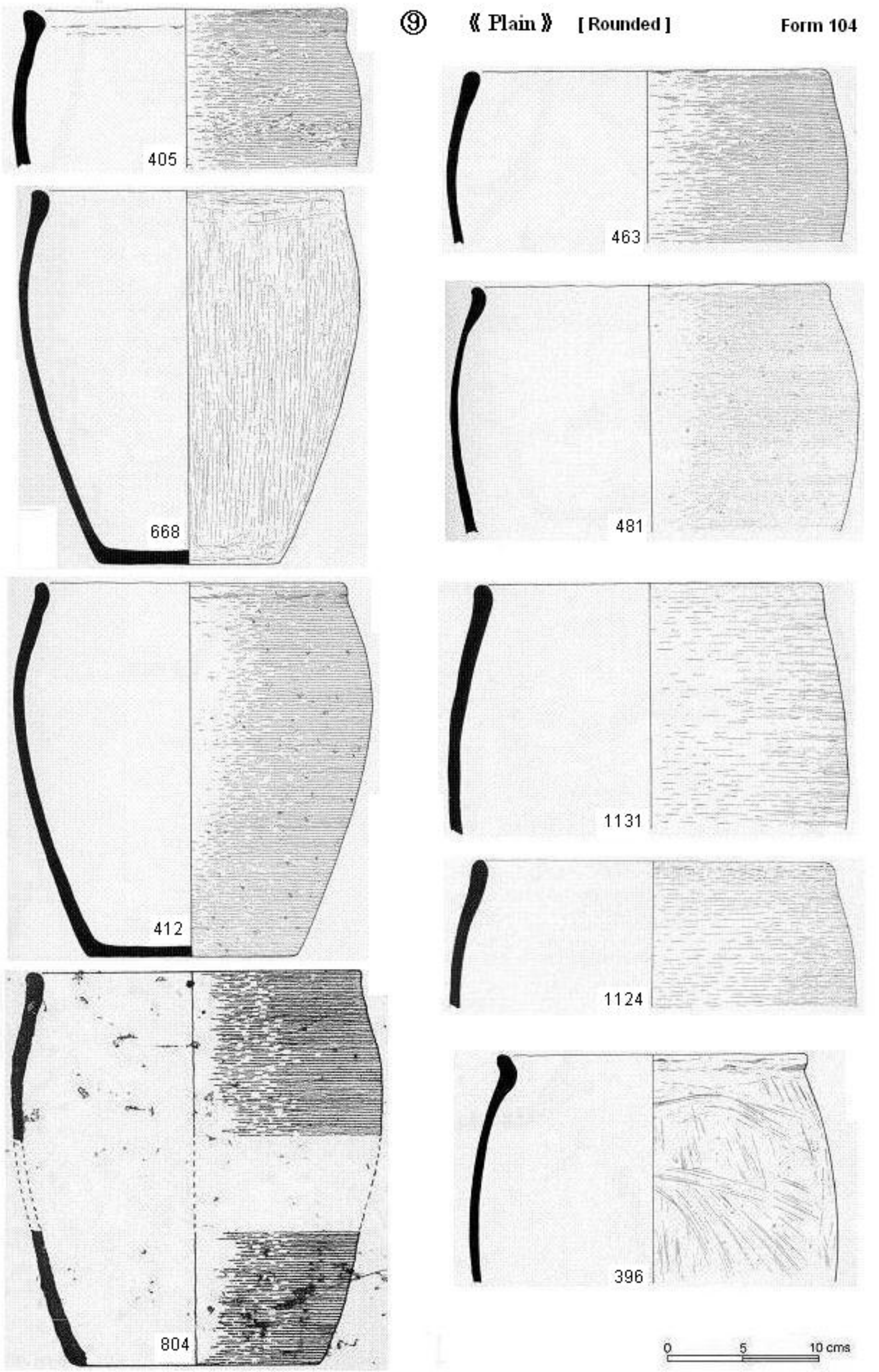


Fig. 6.41 Typological classification of vessels from Danebury (Category ⑨- 15)

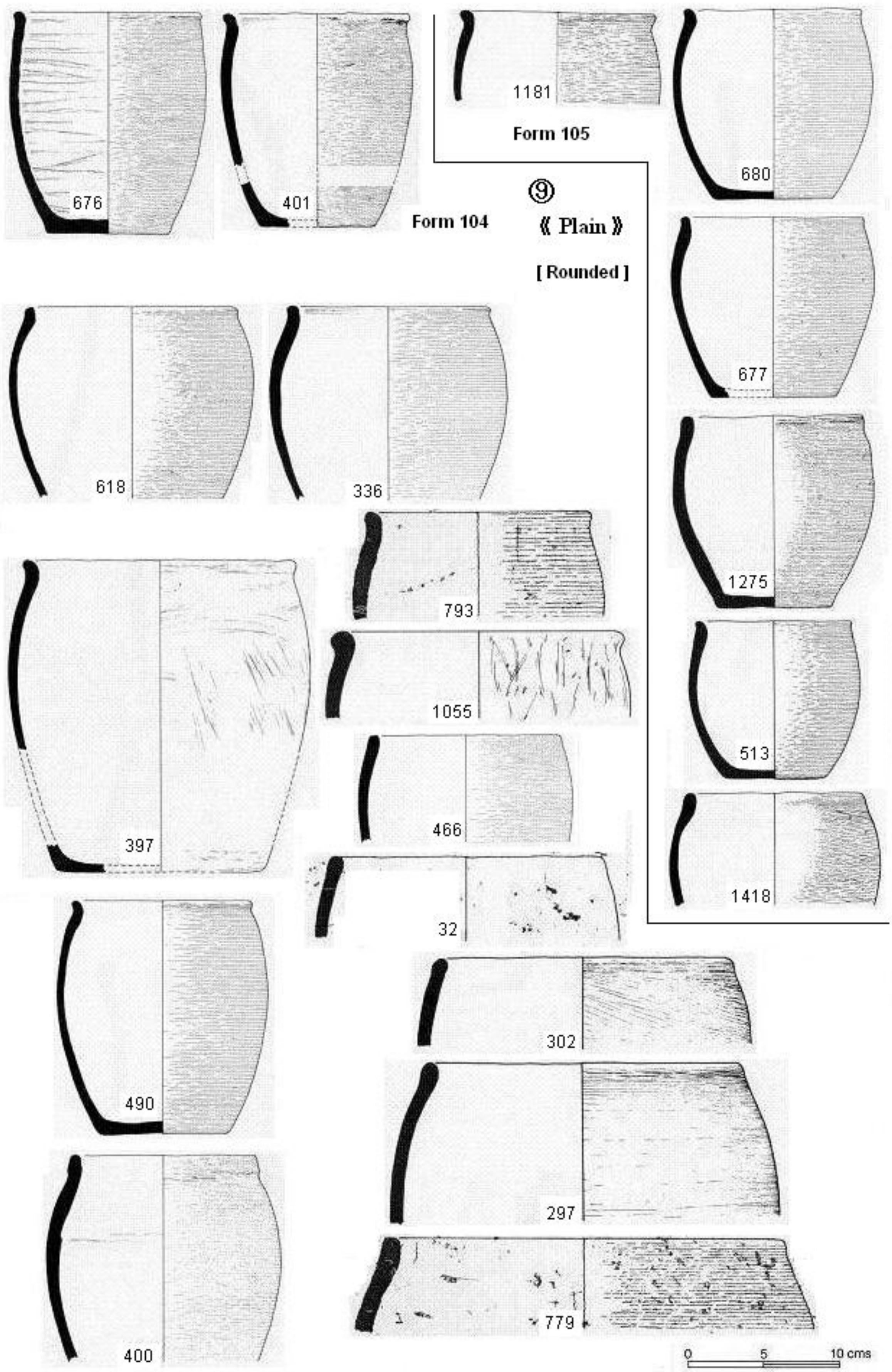


Fig. 6.42 Typological classification of vessels from Danebury (Category ⑨- 16)

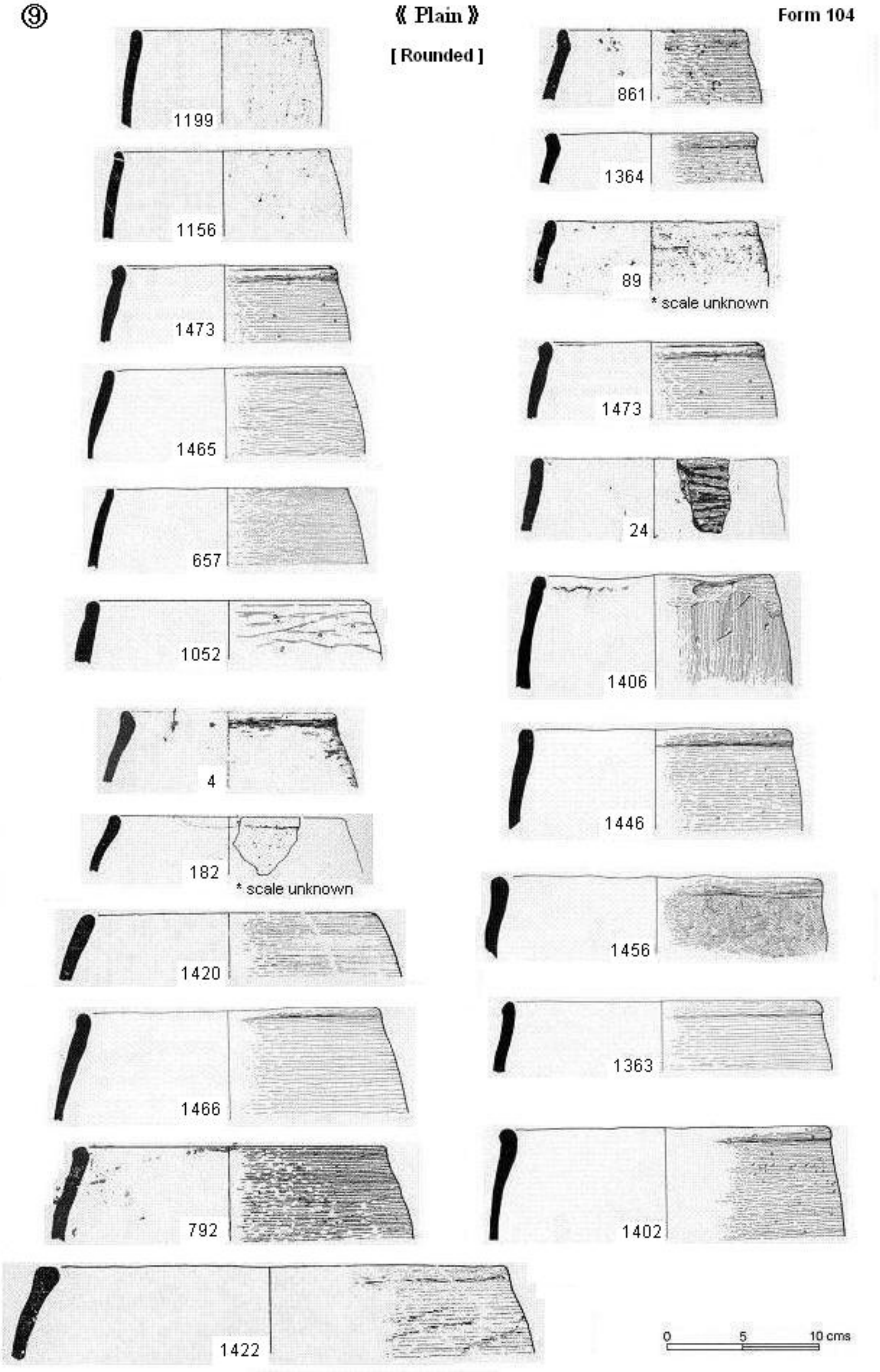


Fig. 6.43 Typological classification of vessels from Danebury (Category ⑨- 17)

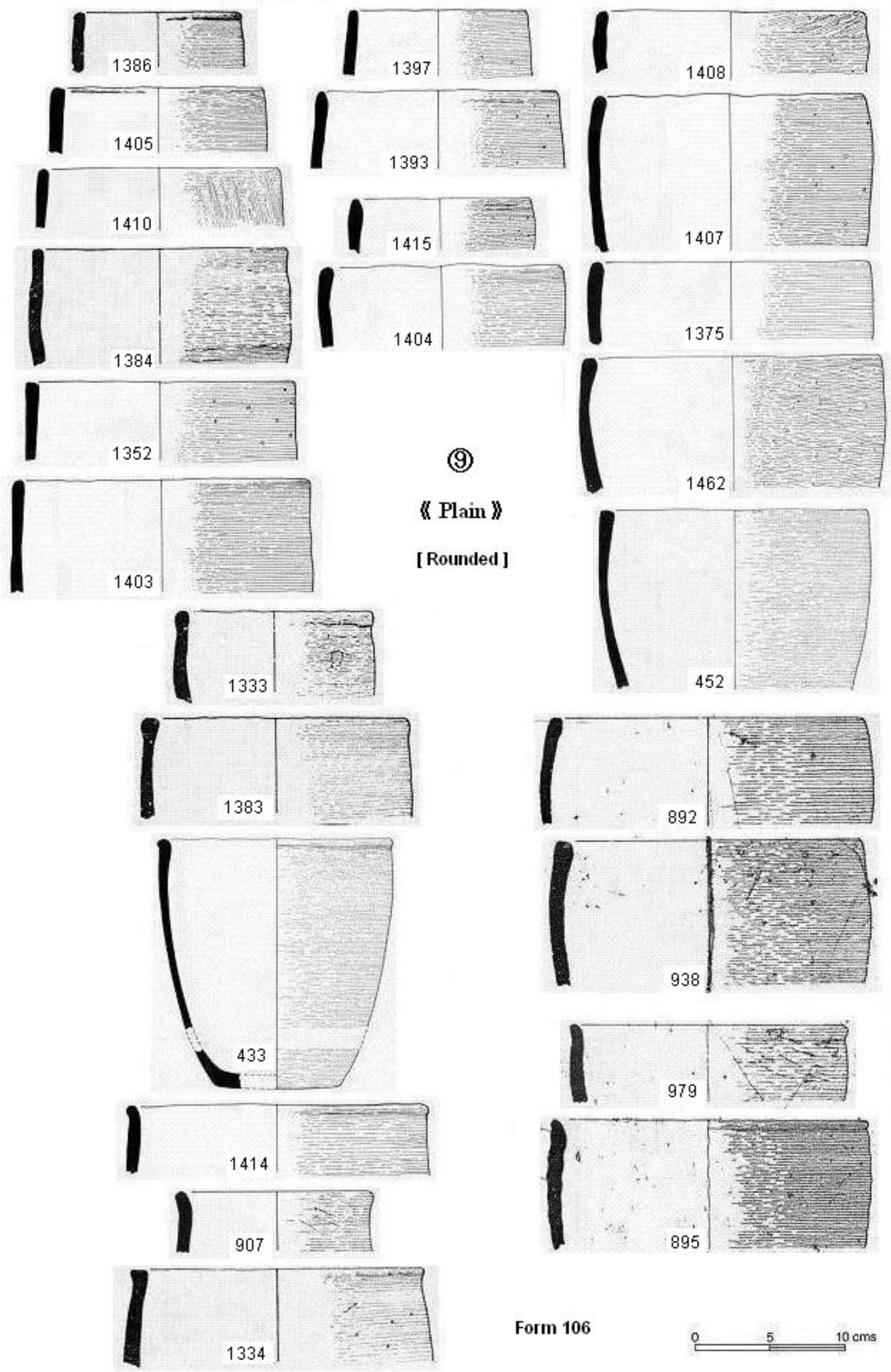


Fig. 6.44 Typological classification of vessels from Danebury (Category ⑨- 18)

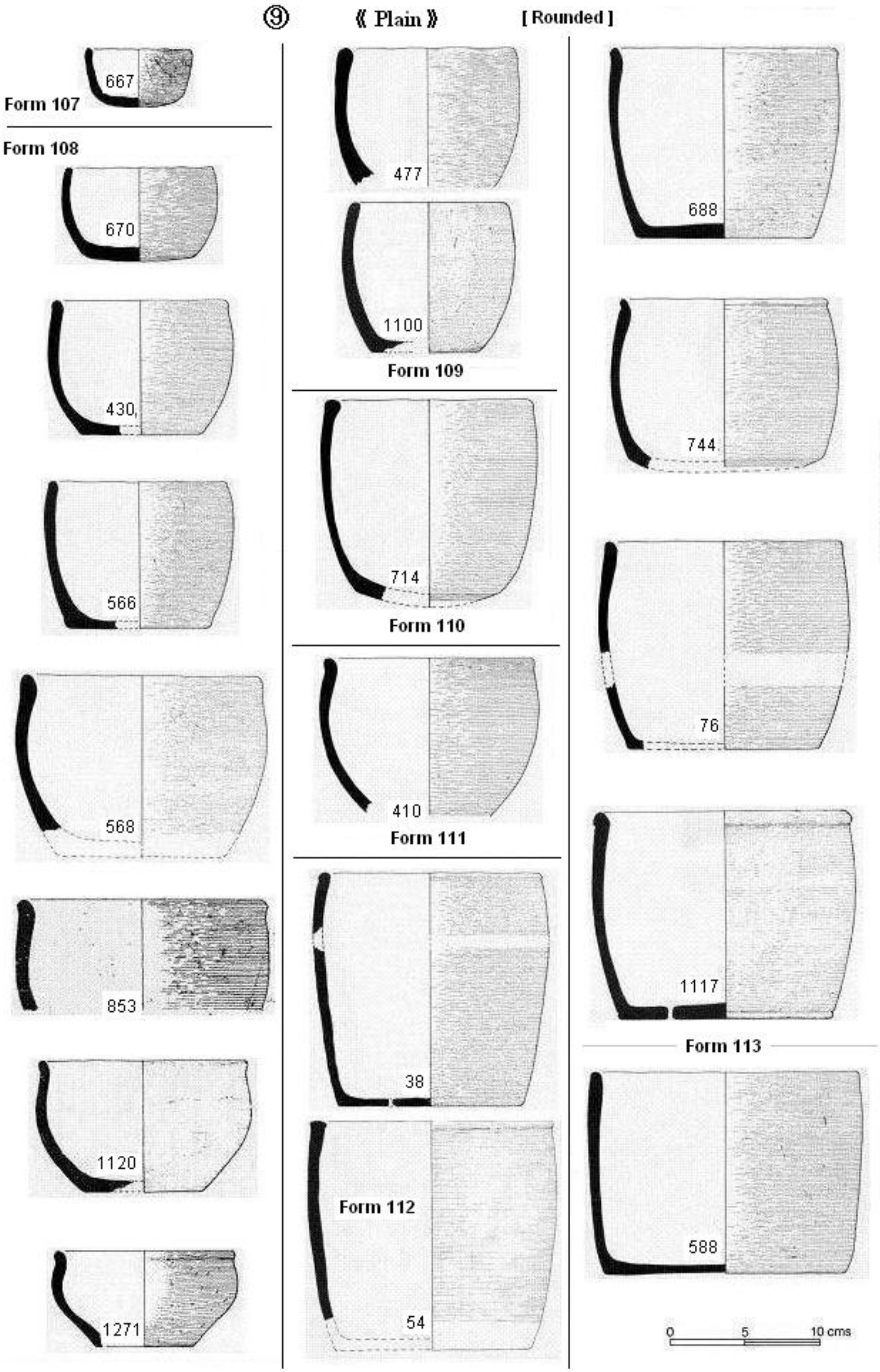


Fig. 6.45 Typological classification of vessels from Danebury (Category ⑨- 19)

⑨ 《 Plain 》 [Rounded]

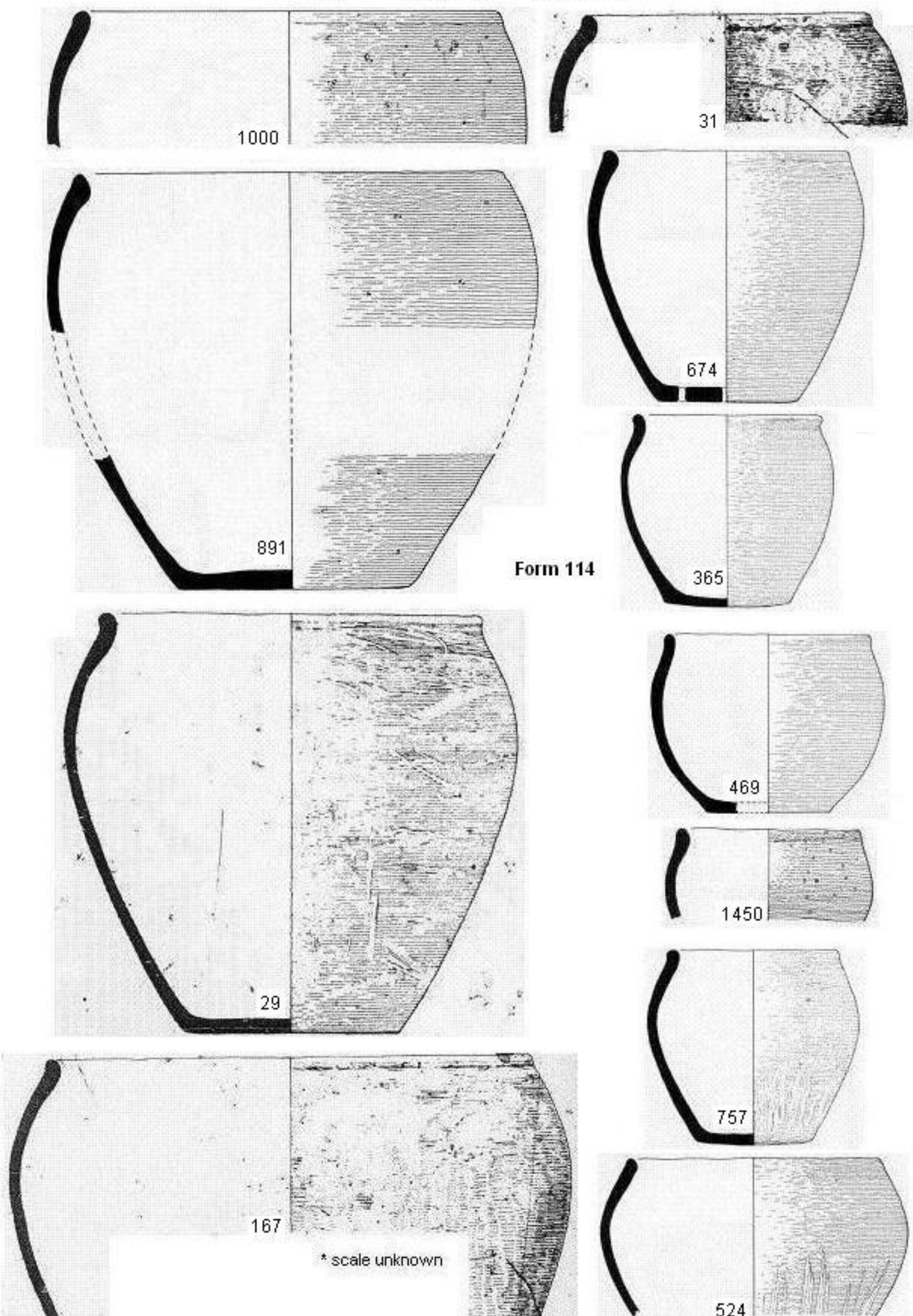


Fig. 6.46 Typological classification of vessels from Danebury (Category ⑨- 20)

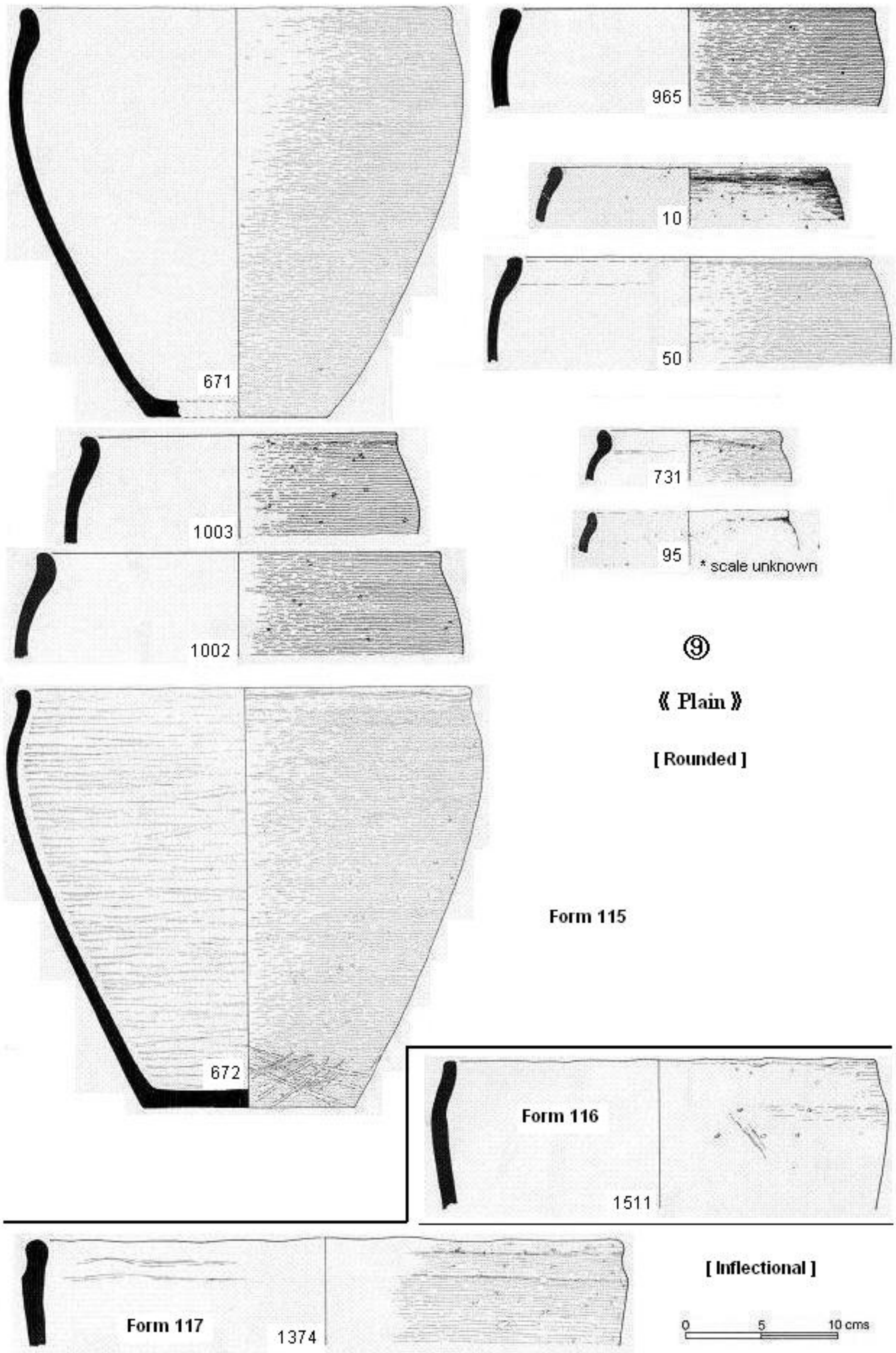


Fig. 6.47 Typological classification of vessels from Danebury (Category ⑨- 21)

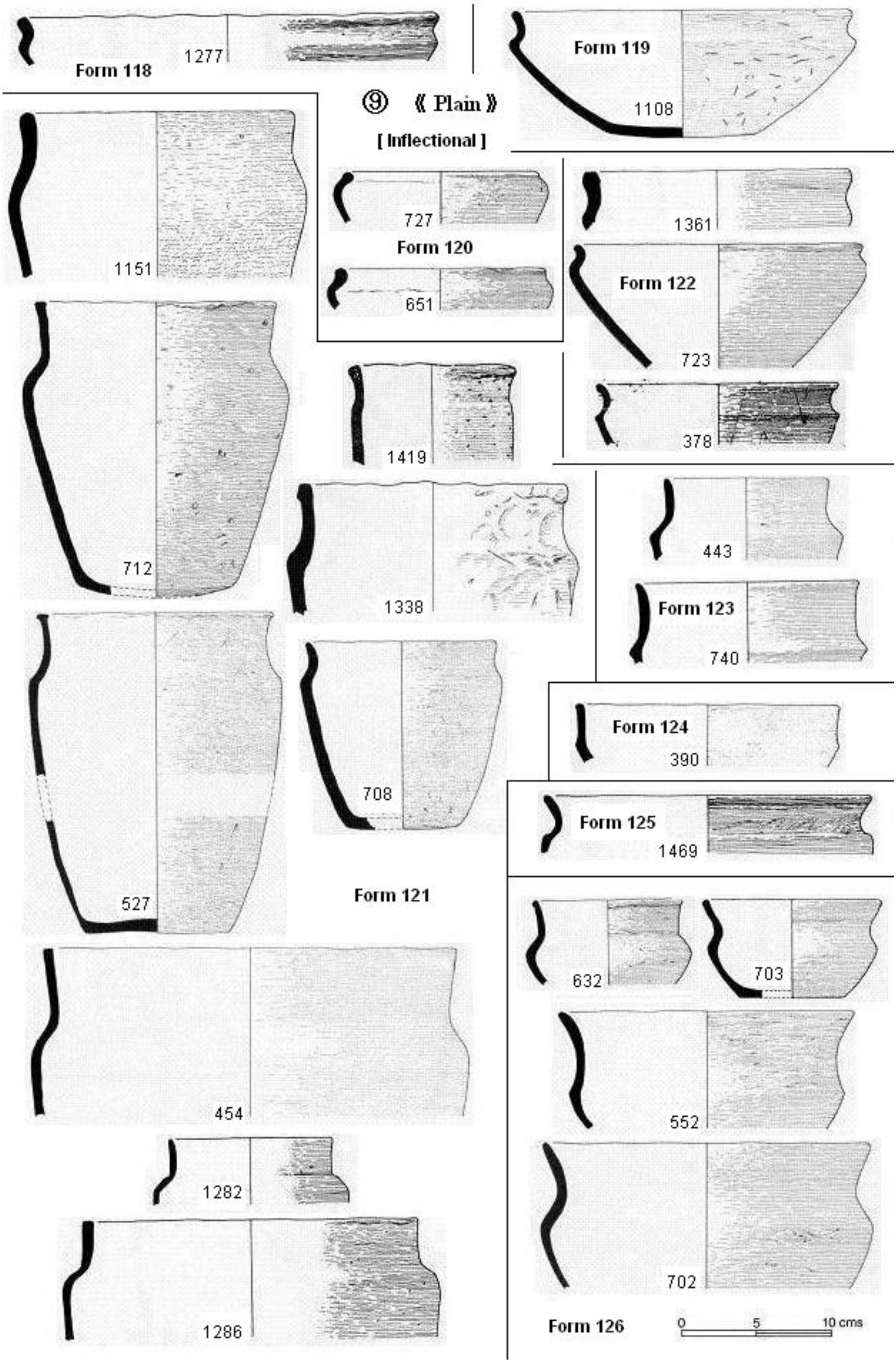


Fig. 6.48 Typological classification of vessels from Danebury (Category ⑨- 22)

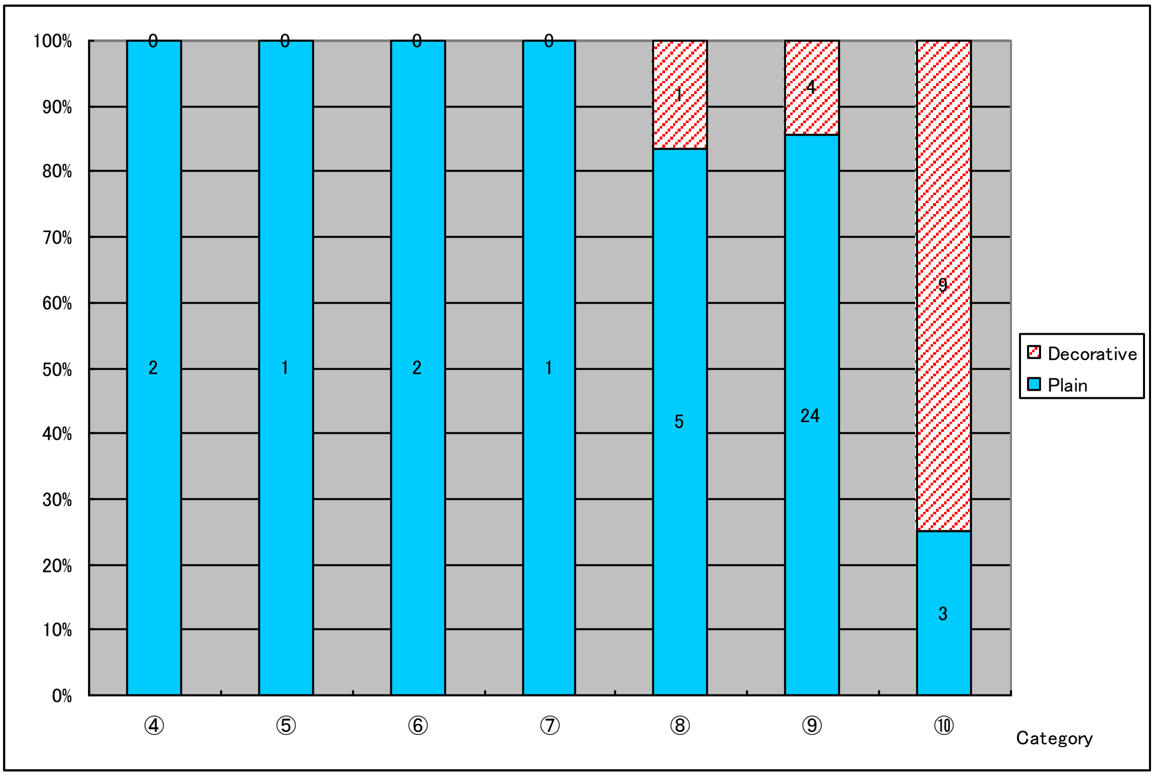


Fig. 6.49　The component ratios between the Decorative types and the Plain types of the major forms in the individual categories

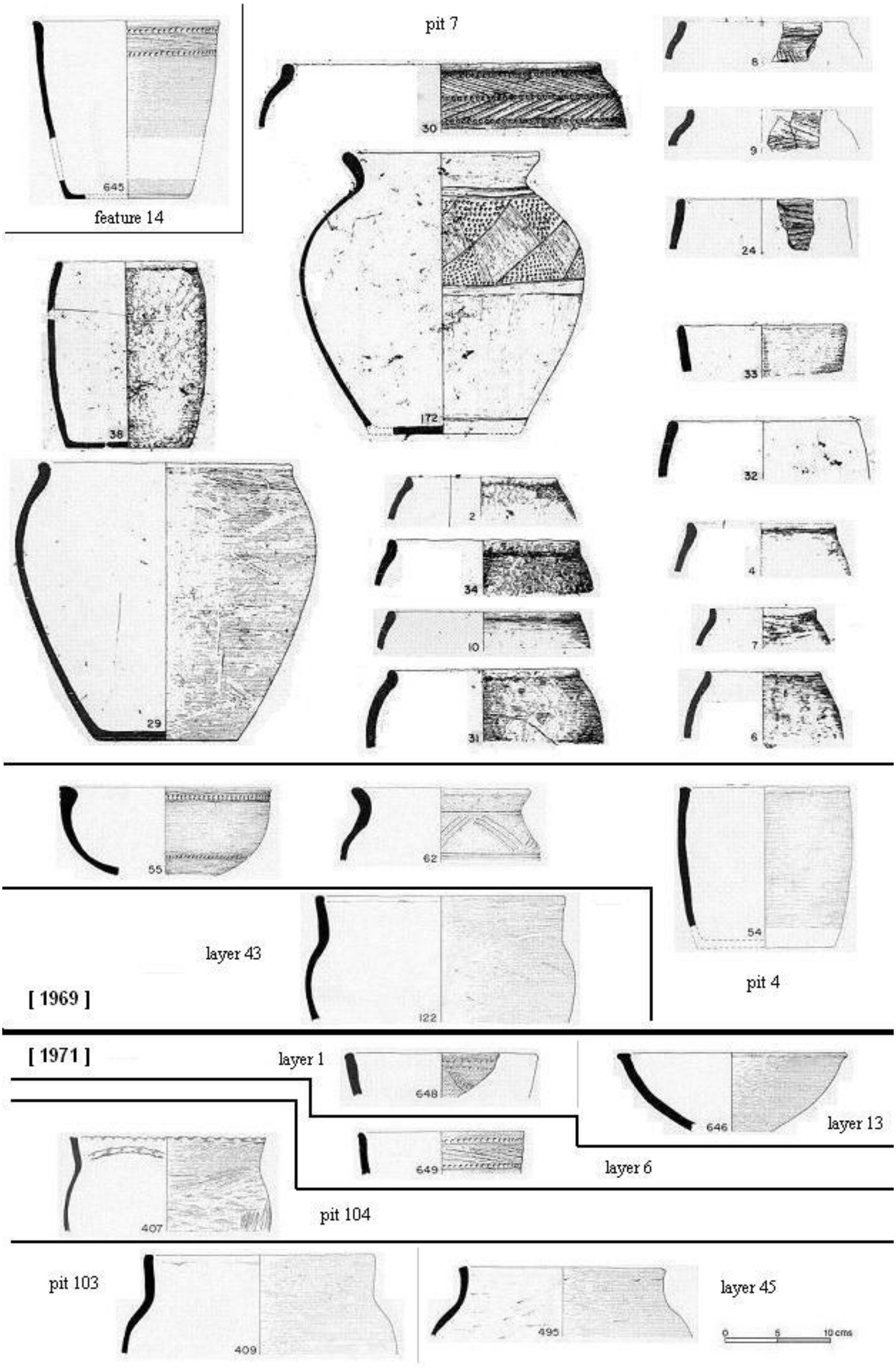


Fig. 6.50 The stratigraphic relations between the vessels for the typological classification (1)

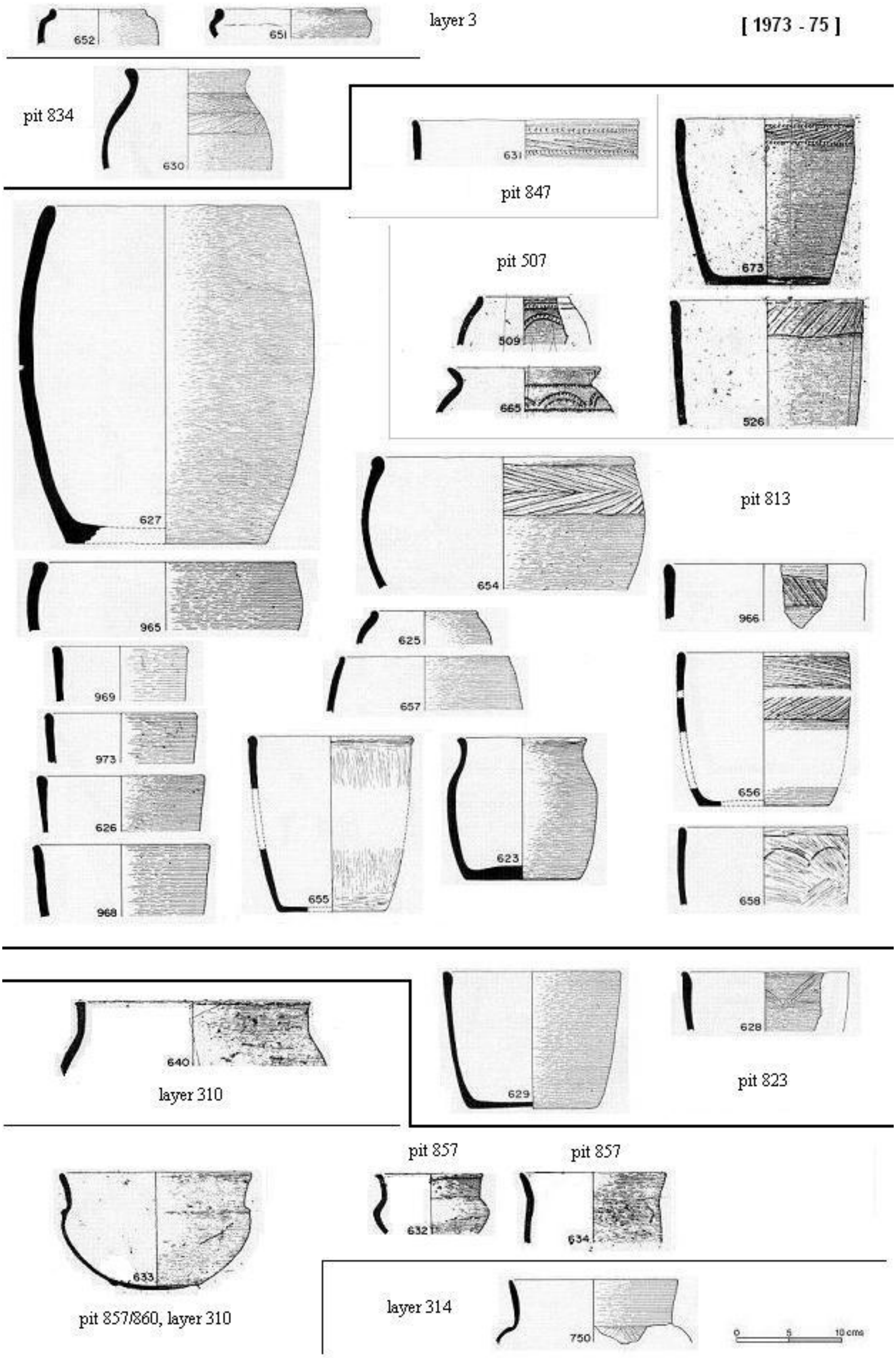


Fig. 6.51 The stratigraphic relations between the vessels for the typological classification (2)

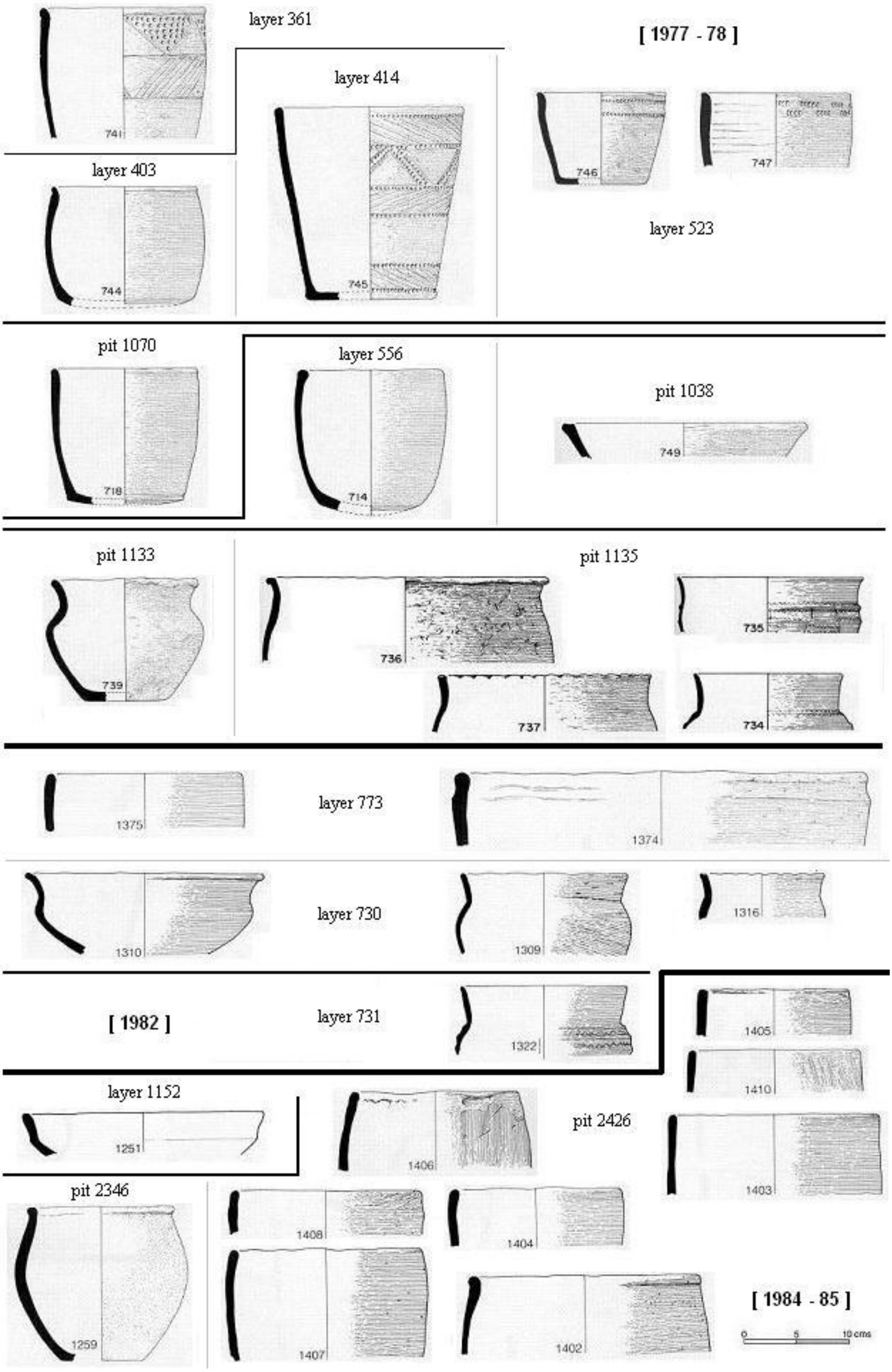


Fig. 6.52 The stratigraphic relations between the vessels for the typological classification (3)

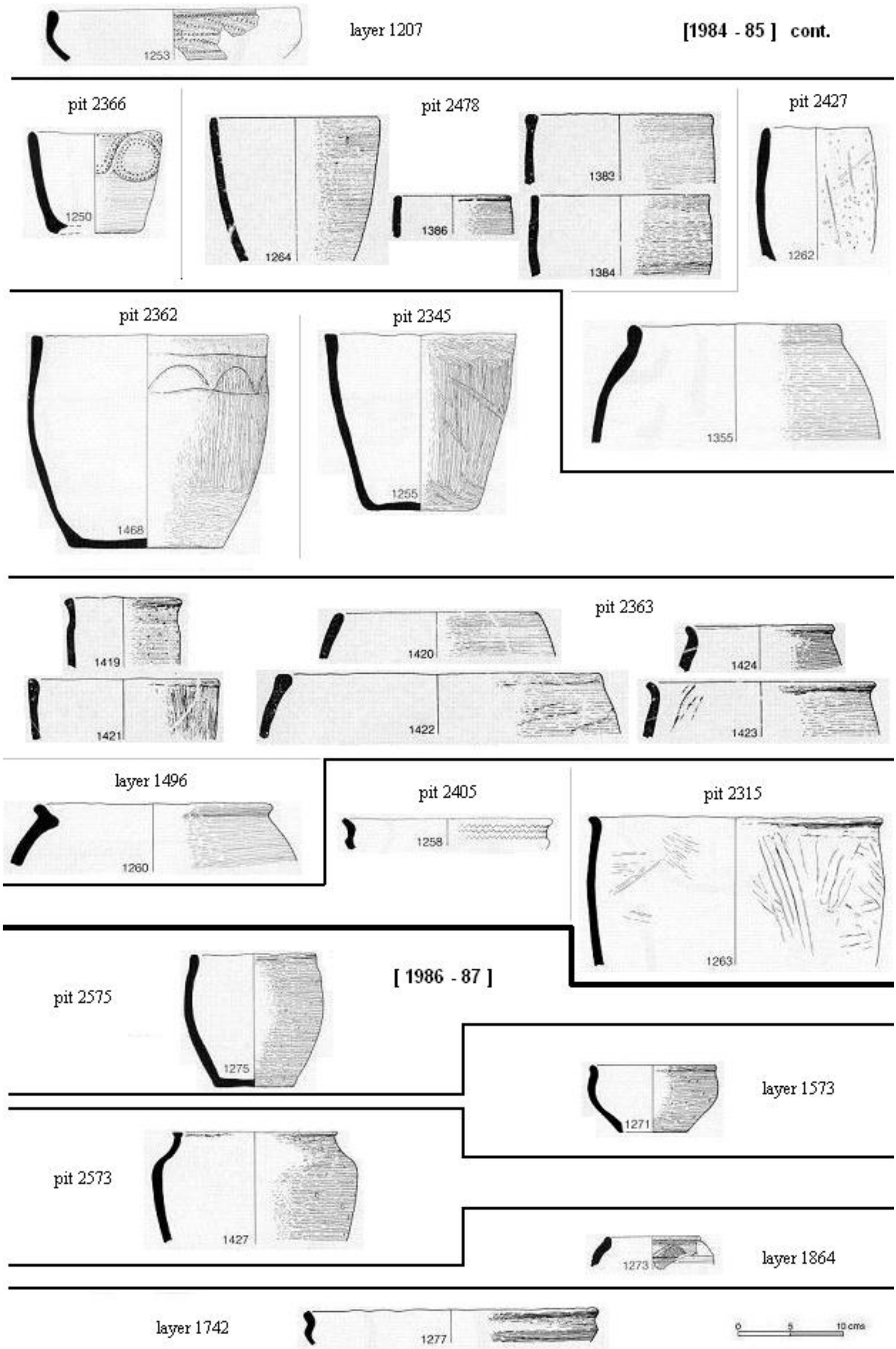


Fig. 6.53 The stratigraphic relations between the vessels for the typological classification (4)

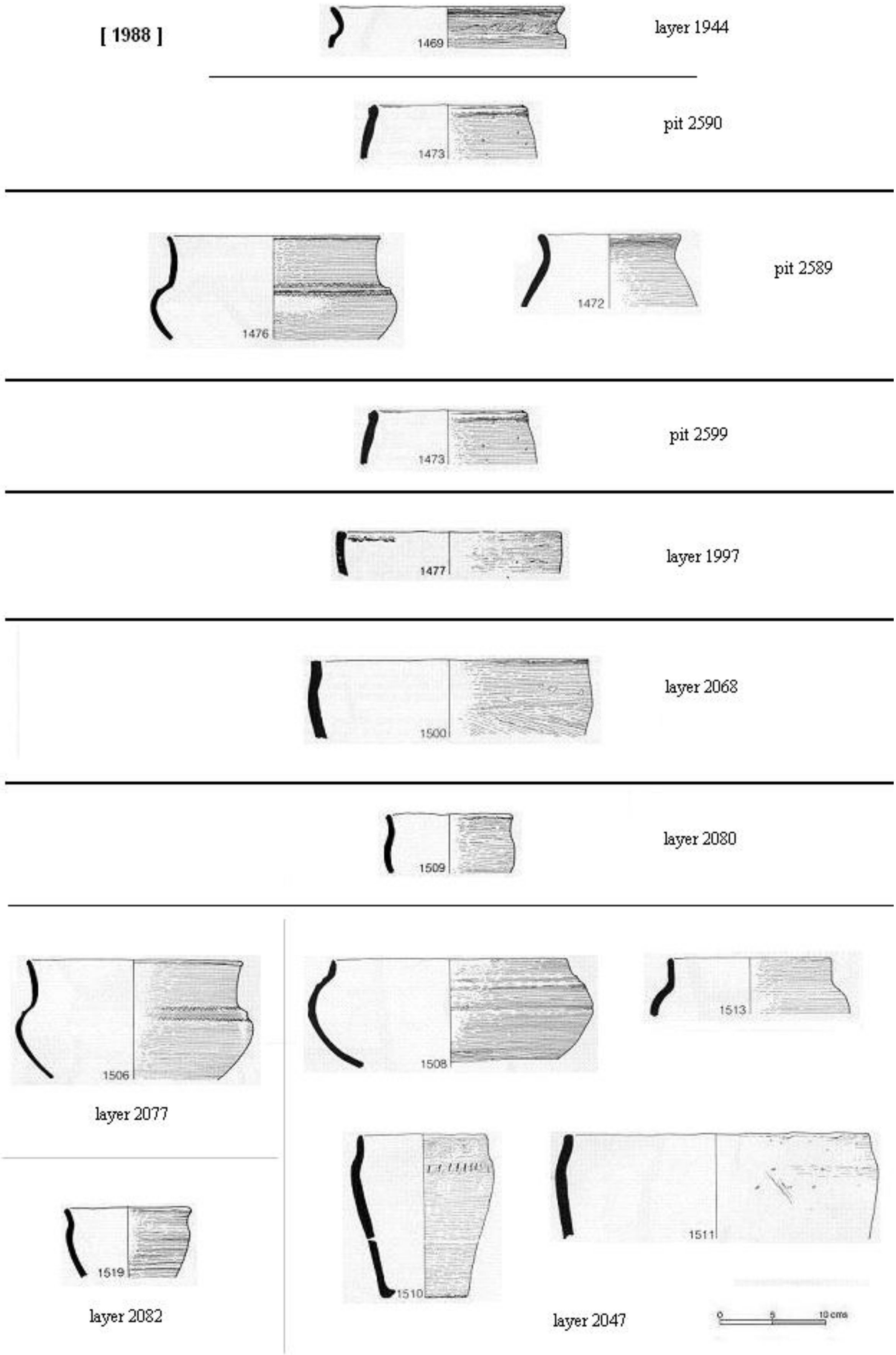


Fig. 6.54 The stratigraphic relations between the vessels for the typological classification (5)

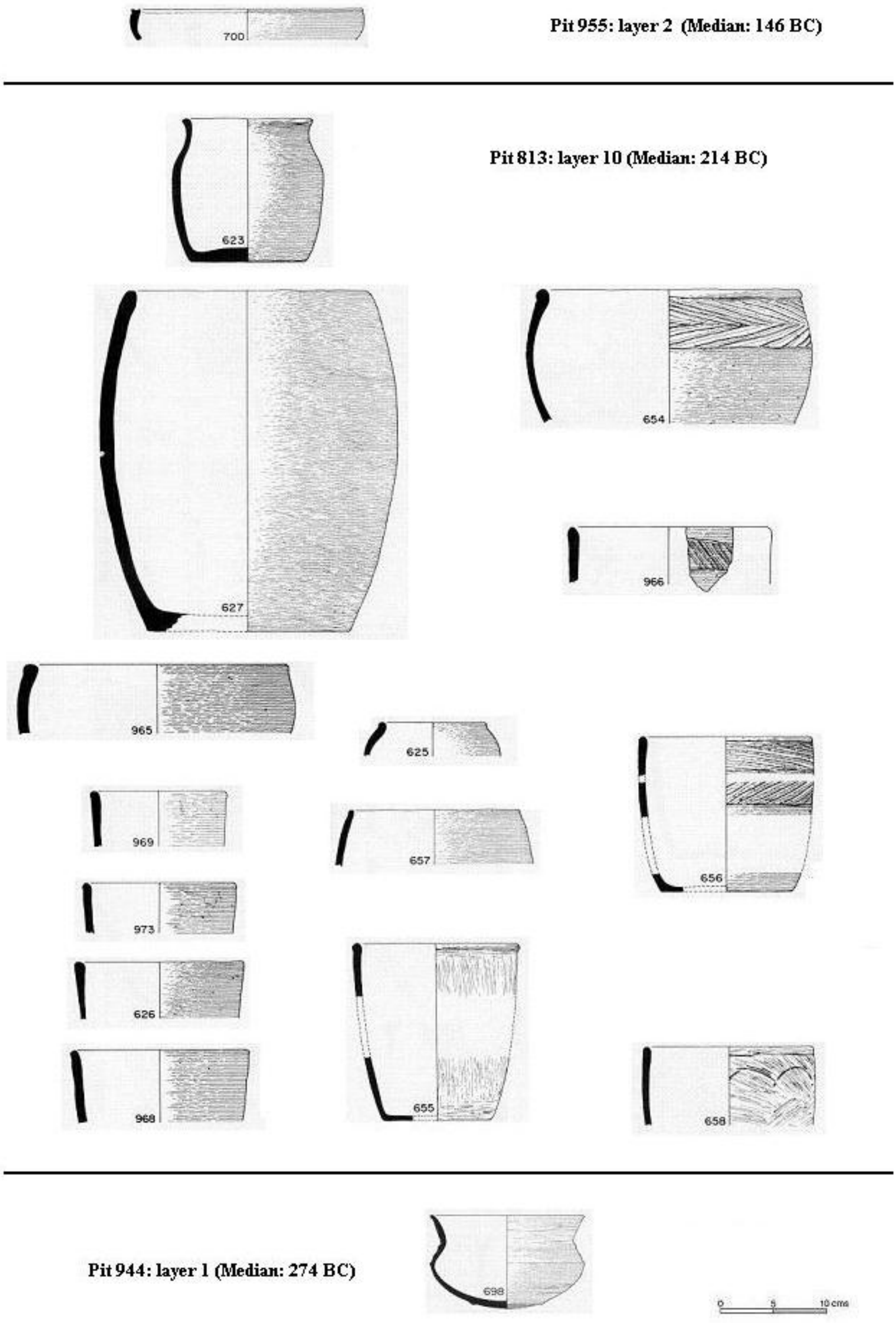


Fig. 6.55 The chronological relations between the vessels for the typological classification on radiocarbon dates (1)

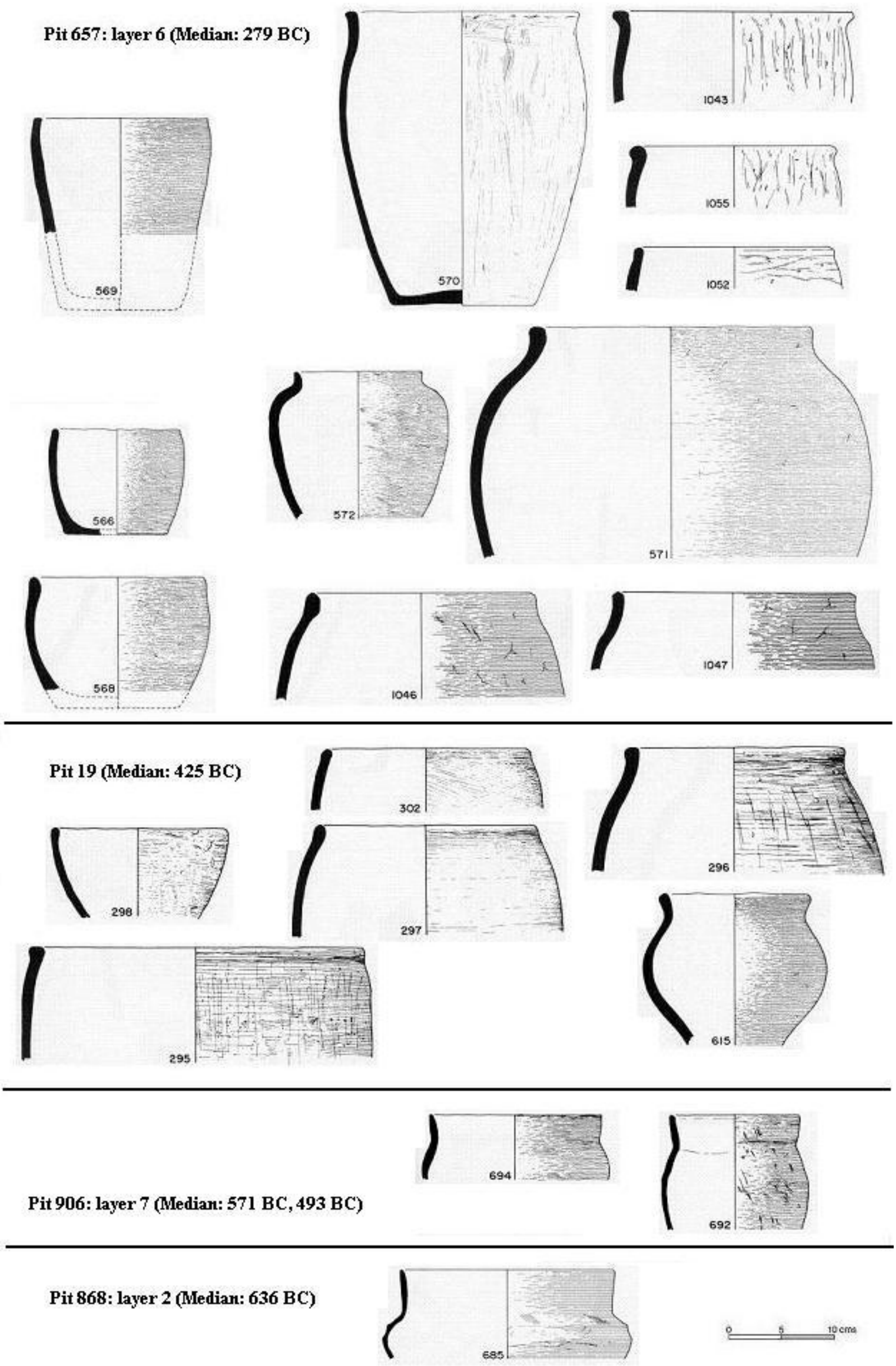


Fig. 6.56 The chronological relations between the vessels for the typological classification on radiocarbon dates (2)

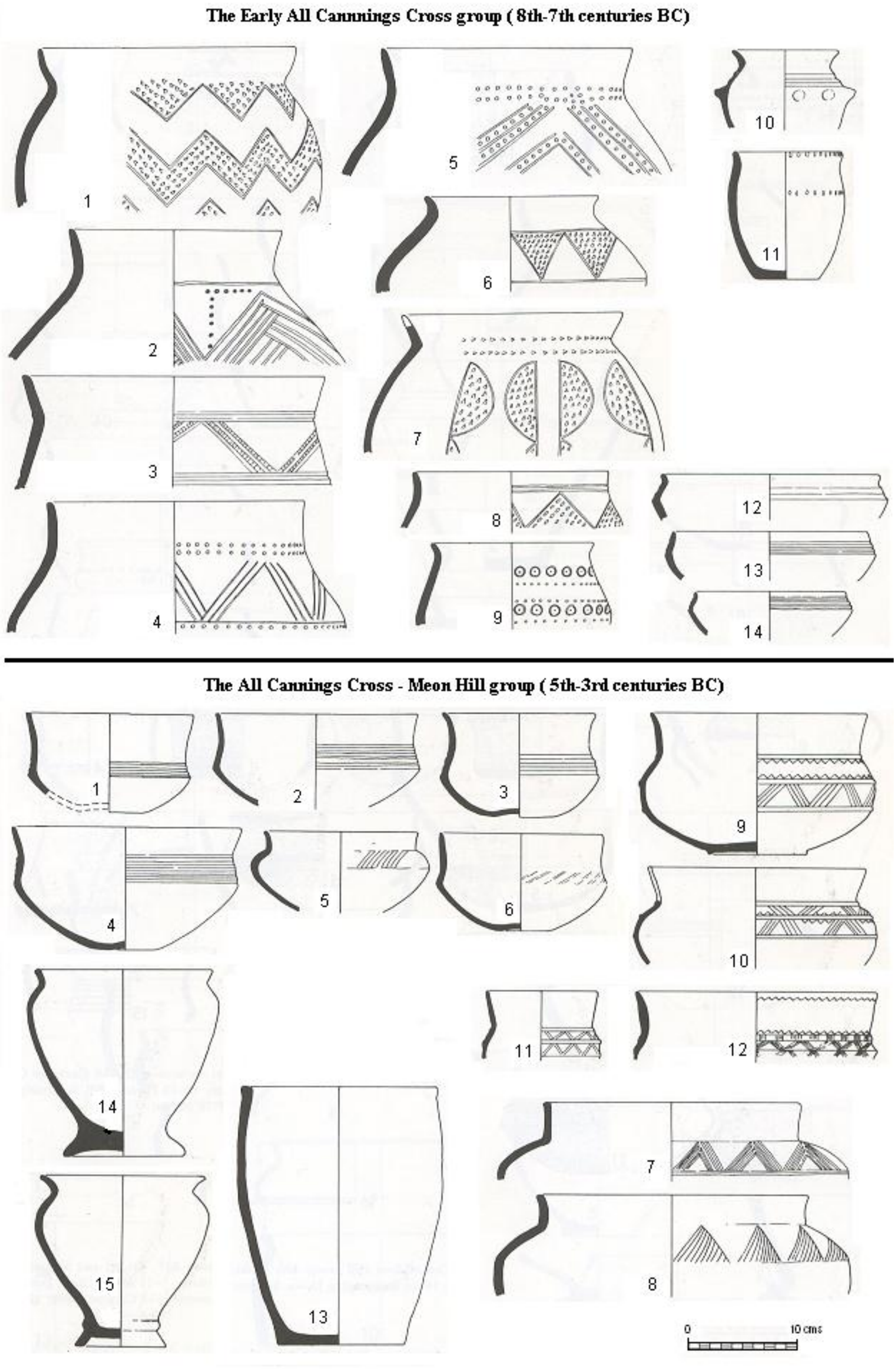


Fig. 6.57 The chronological scheme of Iron Age vessels in central southern Britain by Cunliffe (I) (Source Cunliffe 1991)

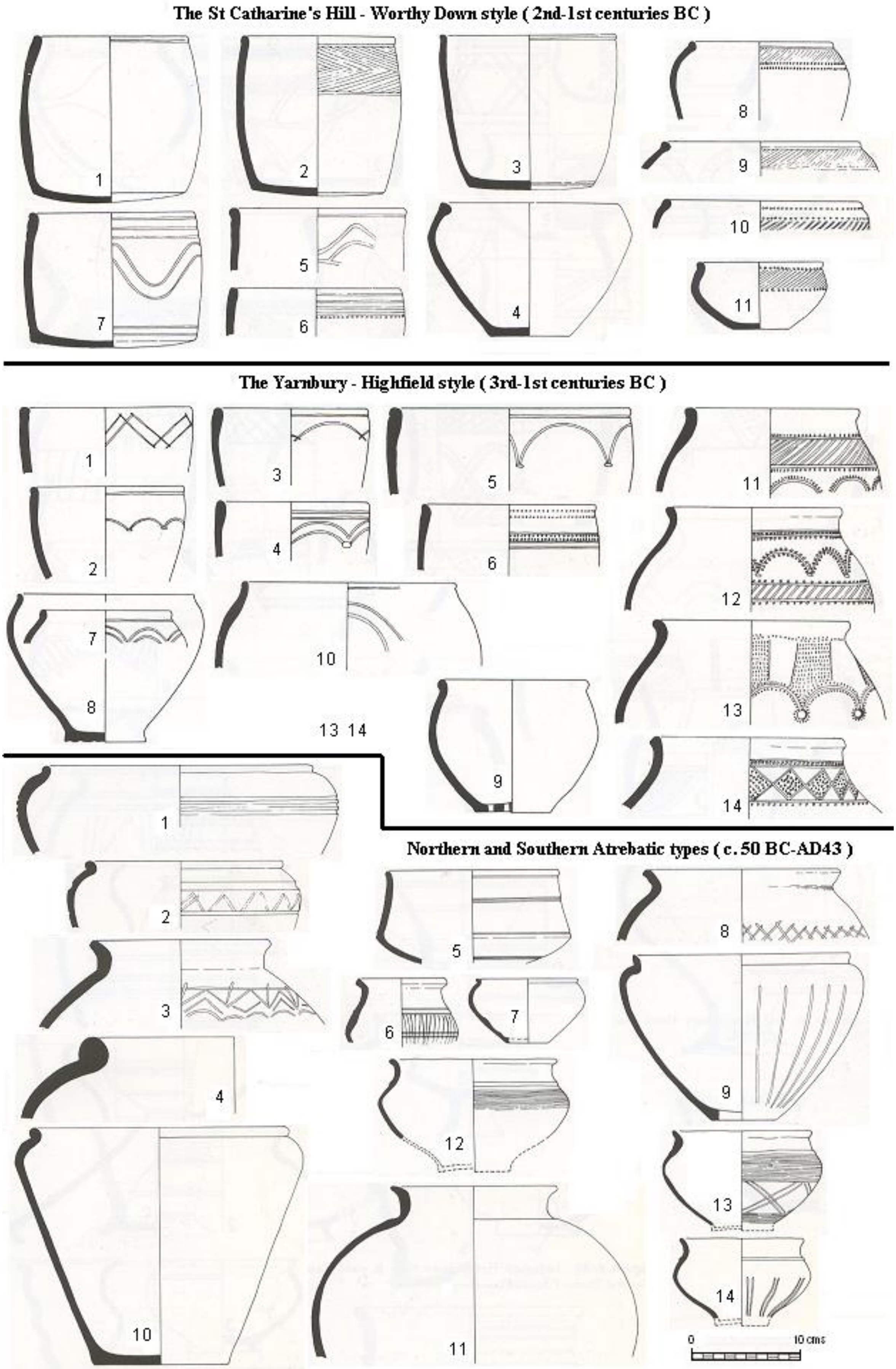


Fig. 6.58 The chronological scheme of Iron Age vessels in central southern Britain by Cunliffe (II) (Source Cunliffe 1991)

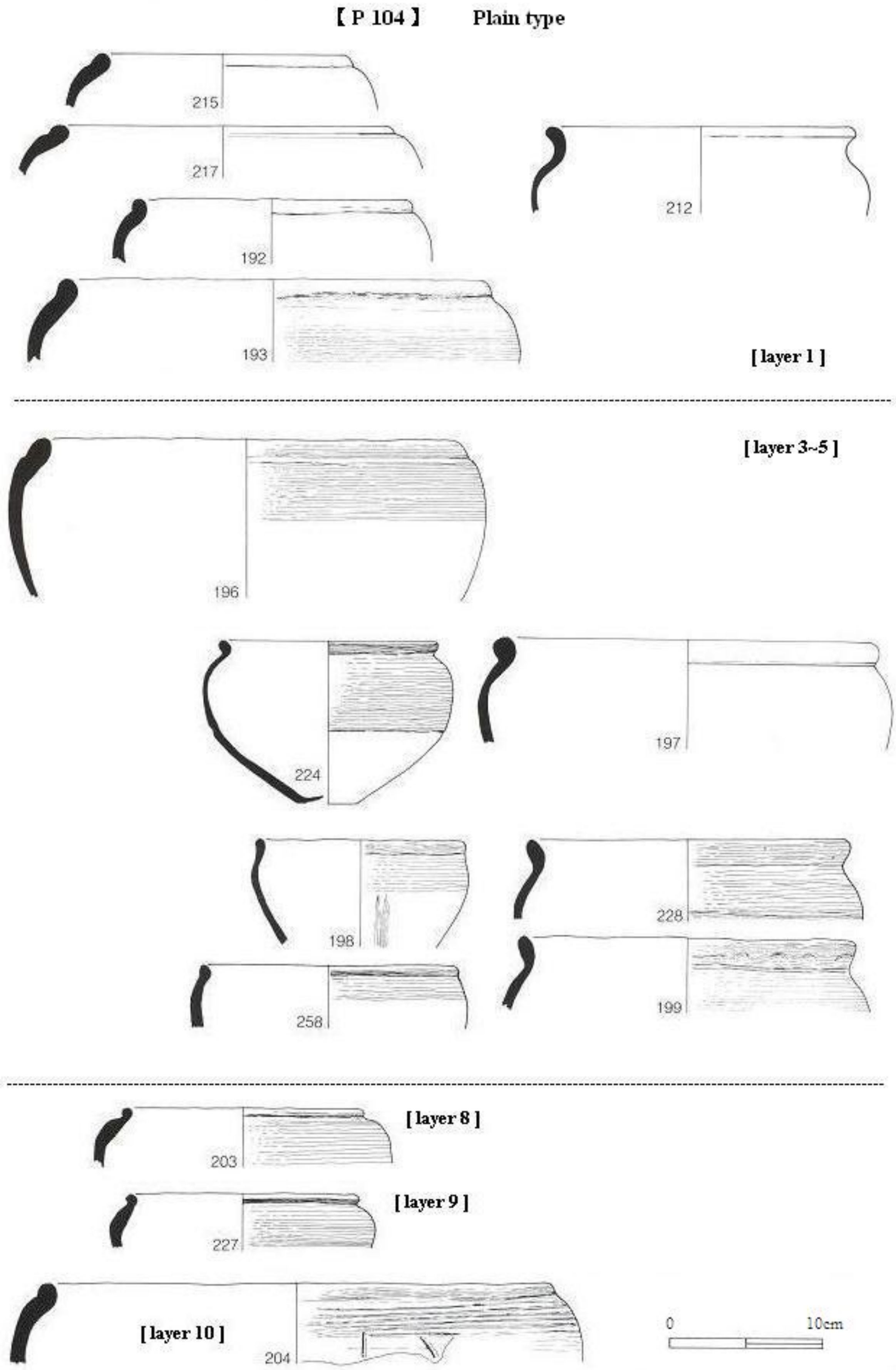


Fig. 6.59 Typological classification of stratified vessels from Pit 104

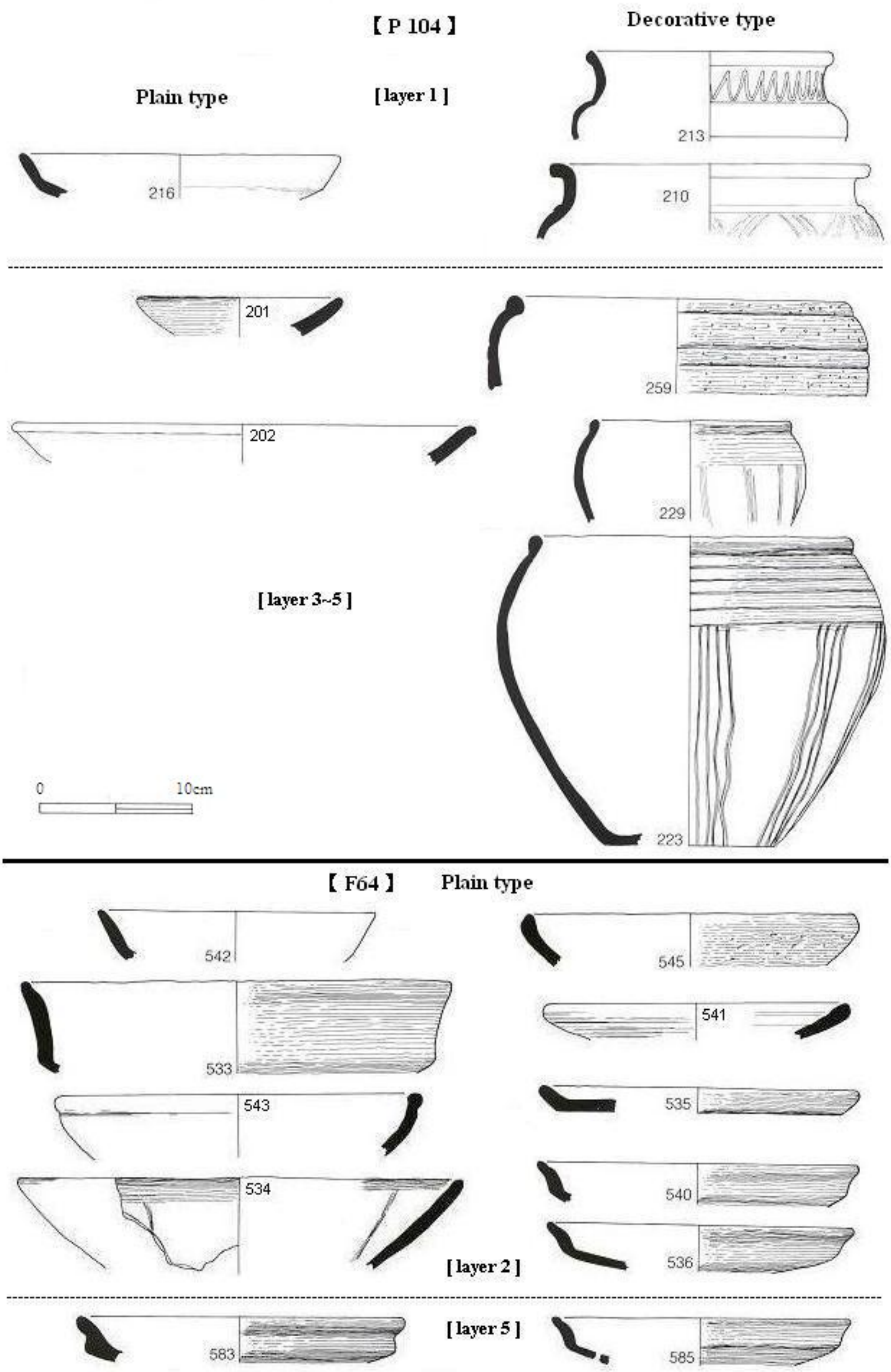


Fig. 6.60 Typological classification of stratified vessels from Pit 104 (above) and F64 (below)

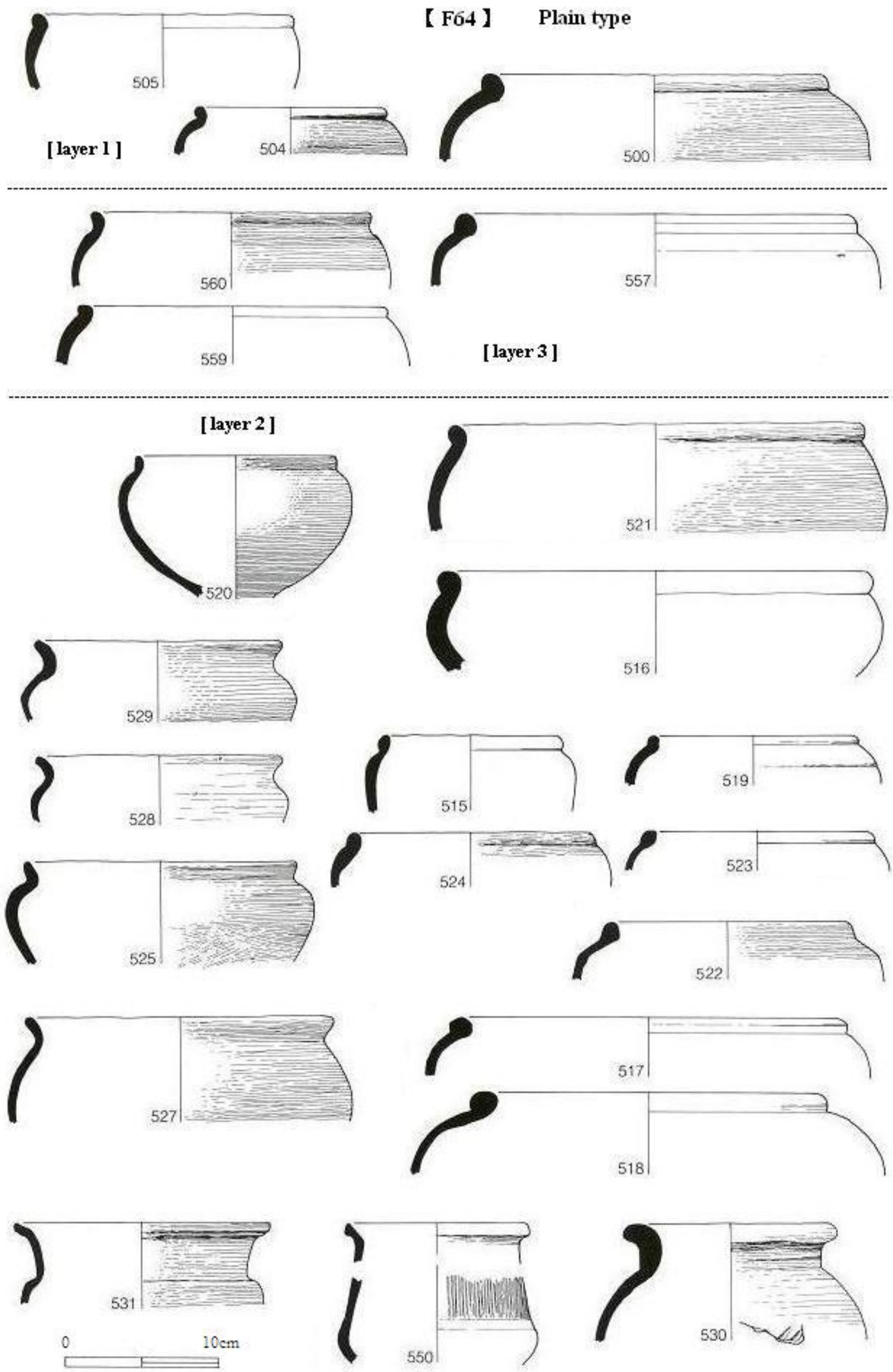


Fig. 6.61 Typological classification of stratified vessels from F64 (1)

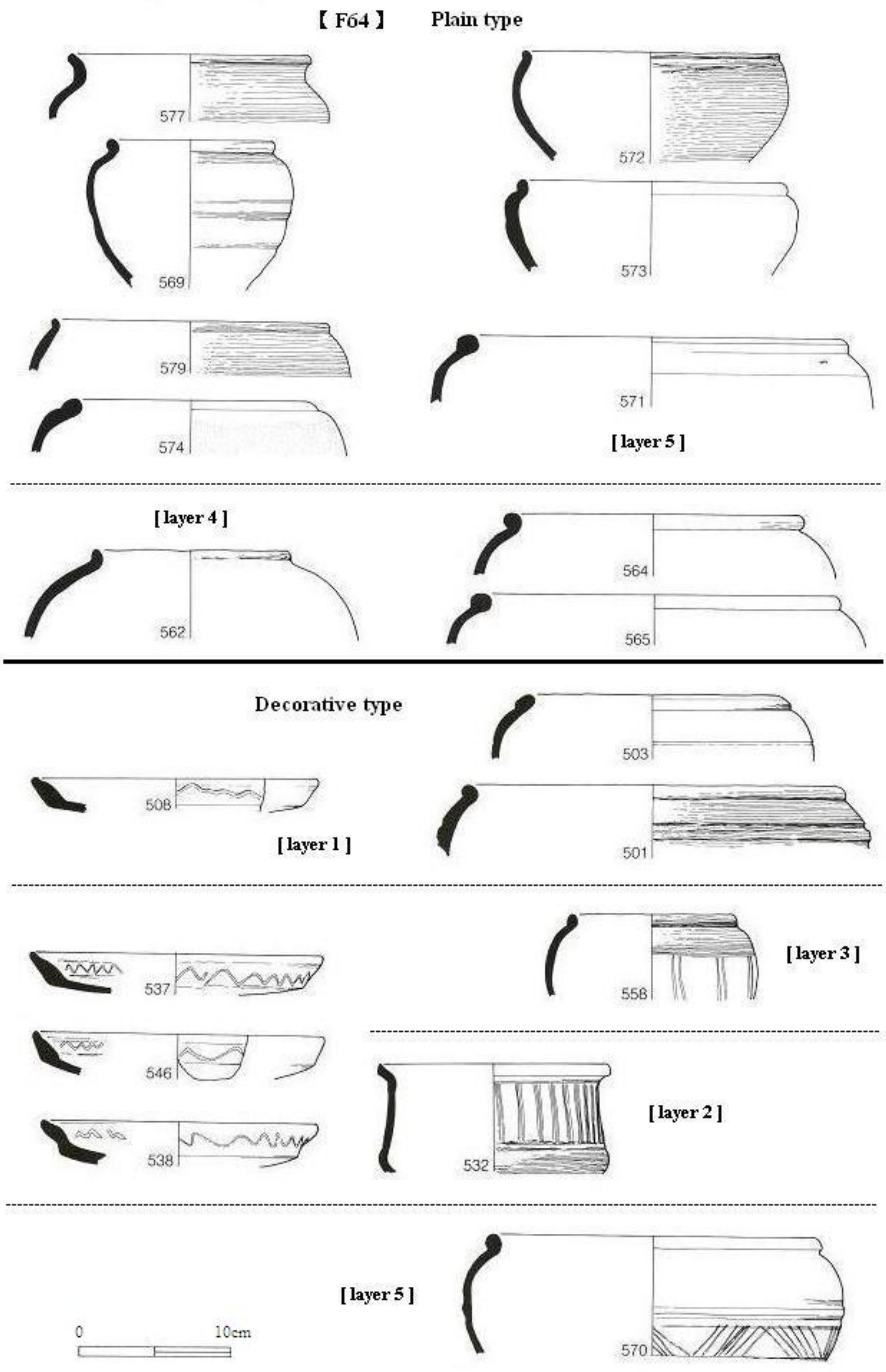


Fig. 6.62 Typological classification of stratified vessels from F64 (2)

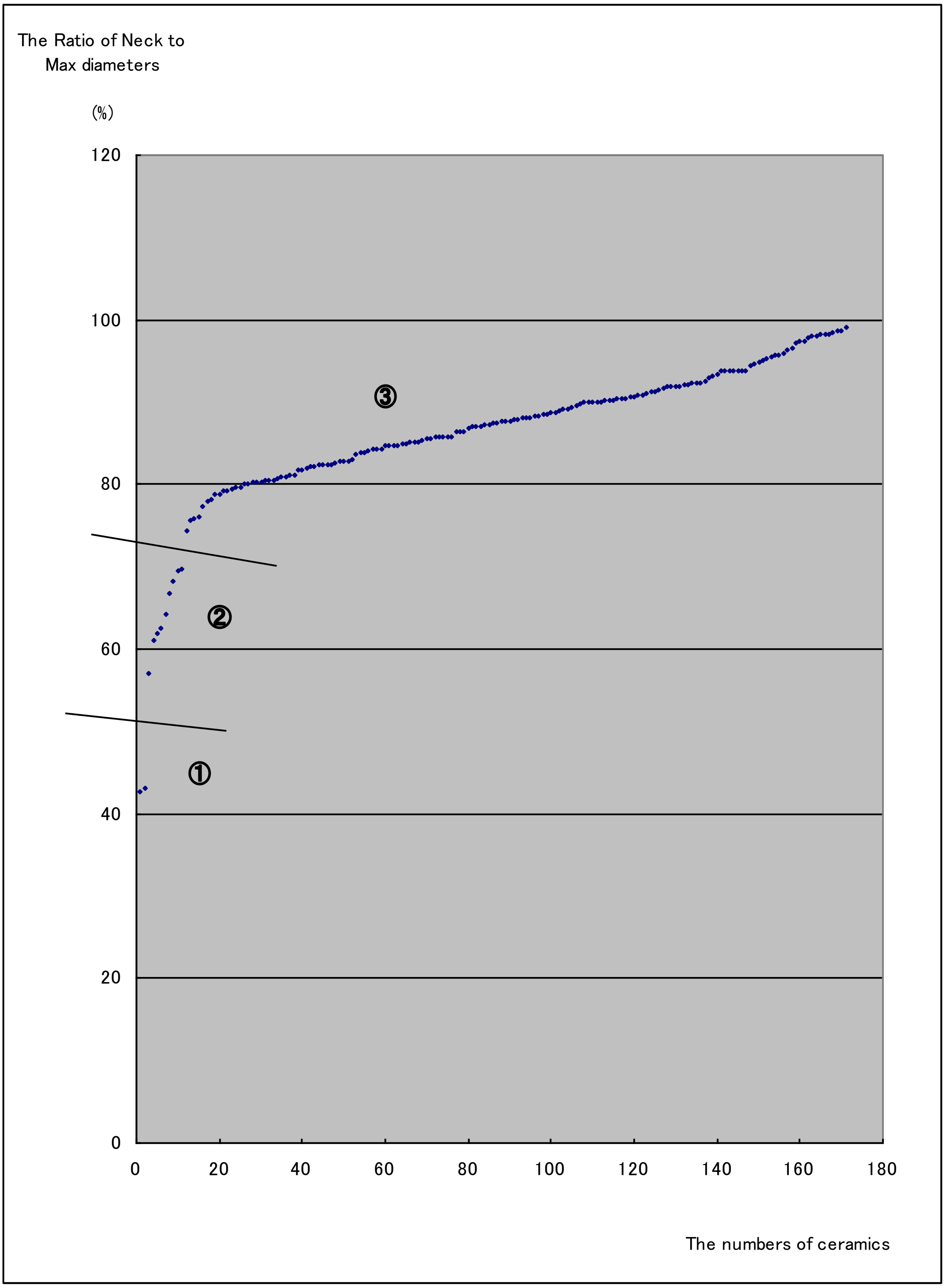


Fig. 6.63 The ratios of neck diameters to max diameters of Iron Age vessels from Suddern Farm

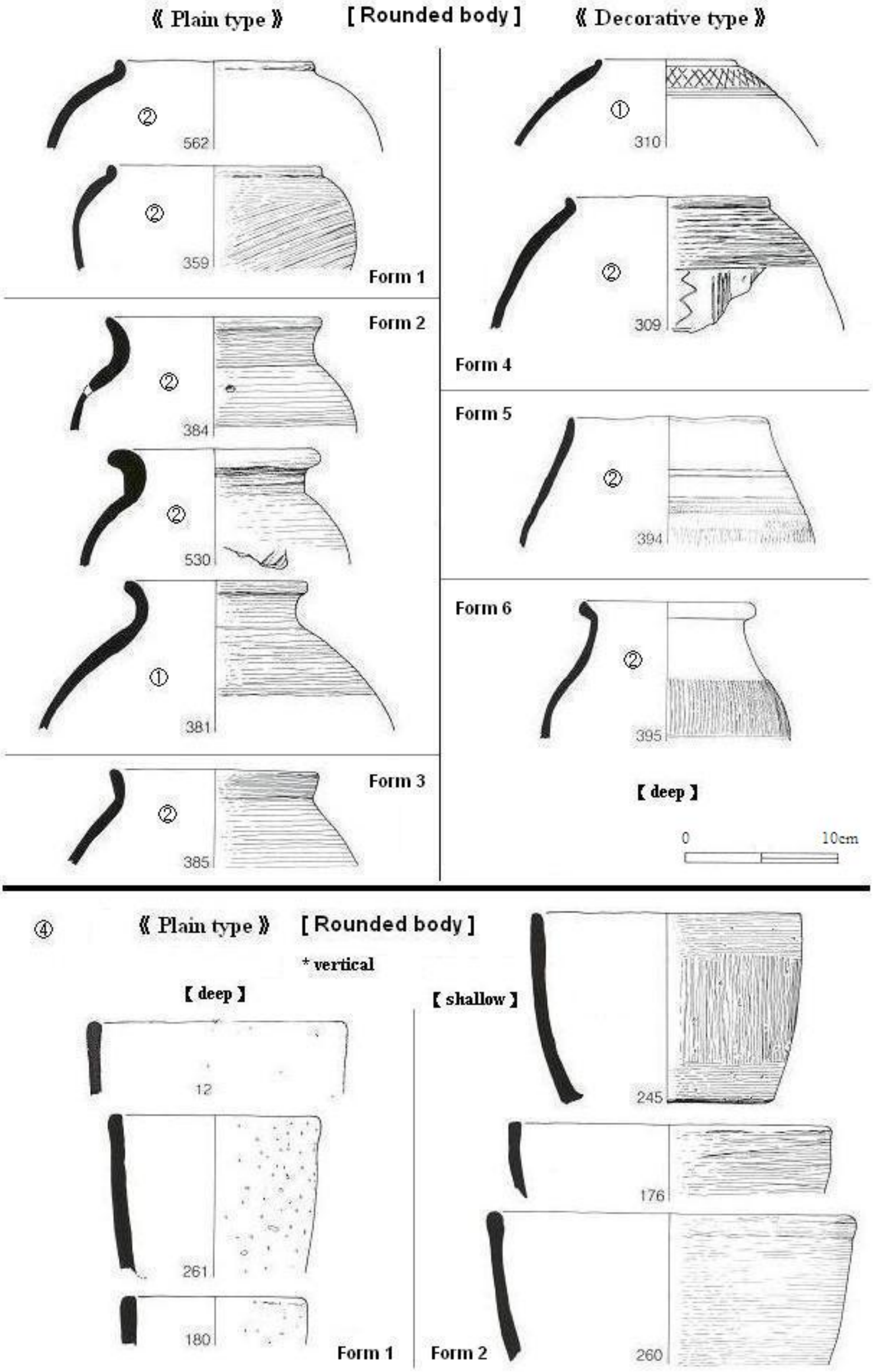


Fig. 6.64 Typological classification of vessels in categories ①② (above) and ④ (below) from Suddern Farm

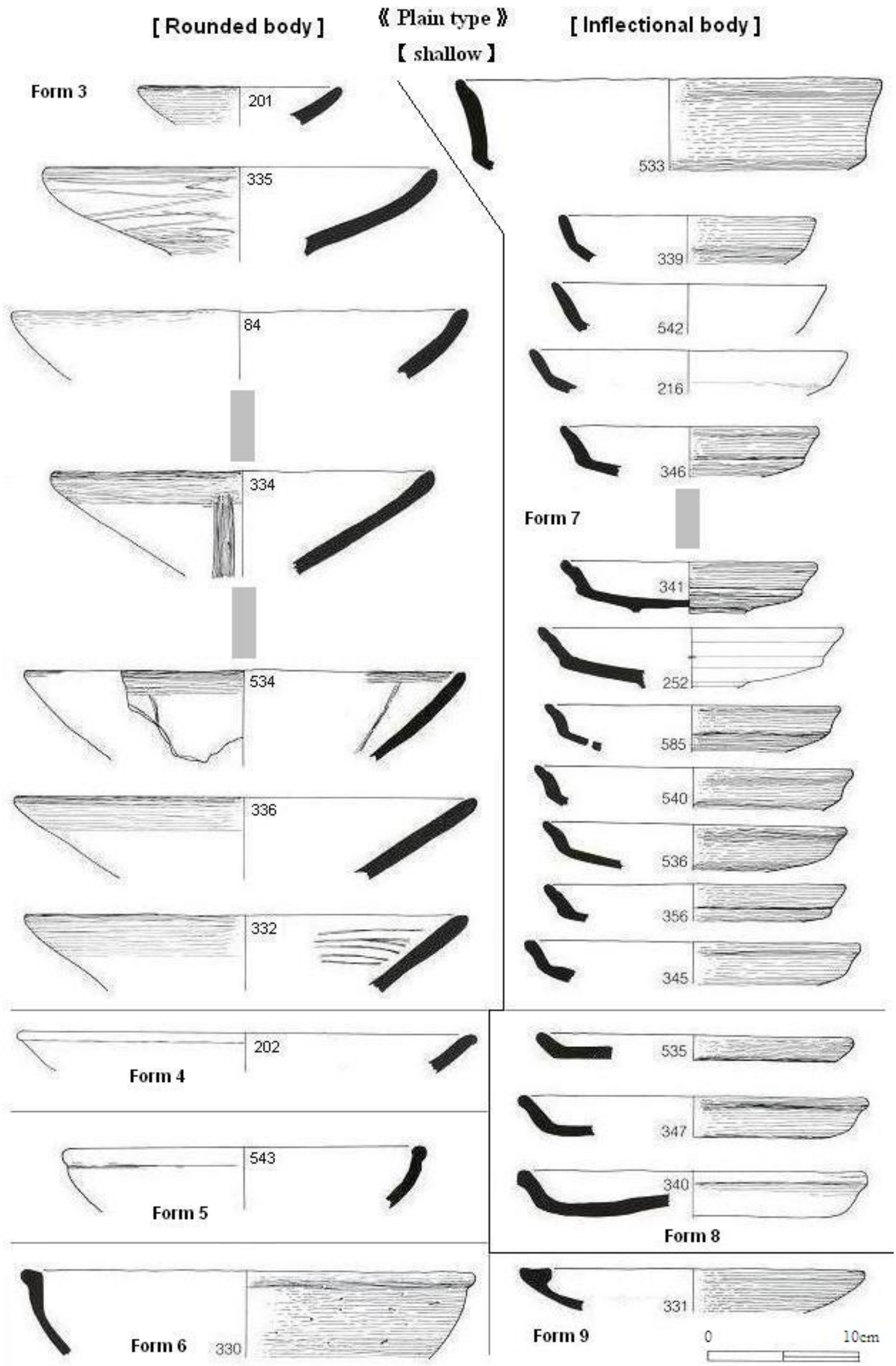


Fig. 6.65 Typological classification of vessels in category ④ from Suddern Farm

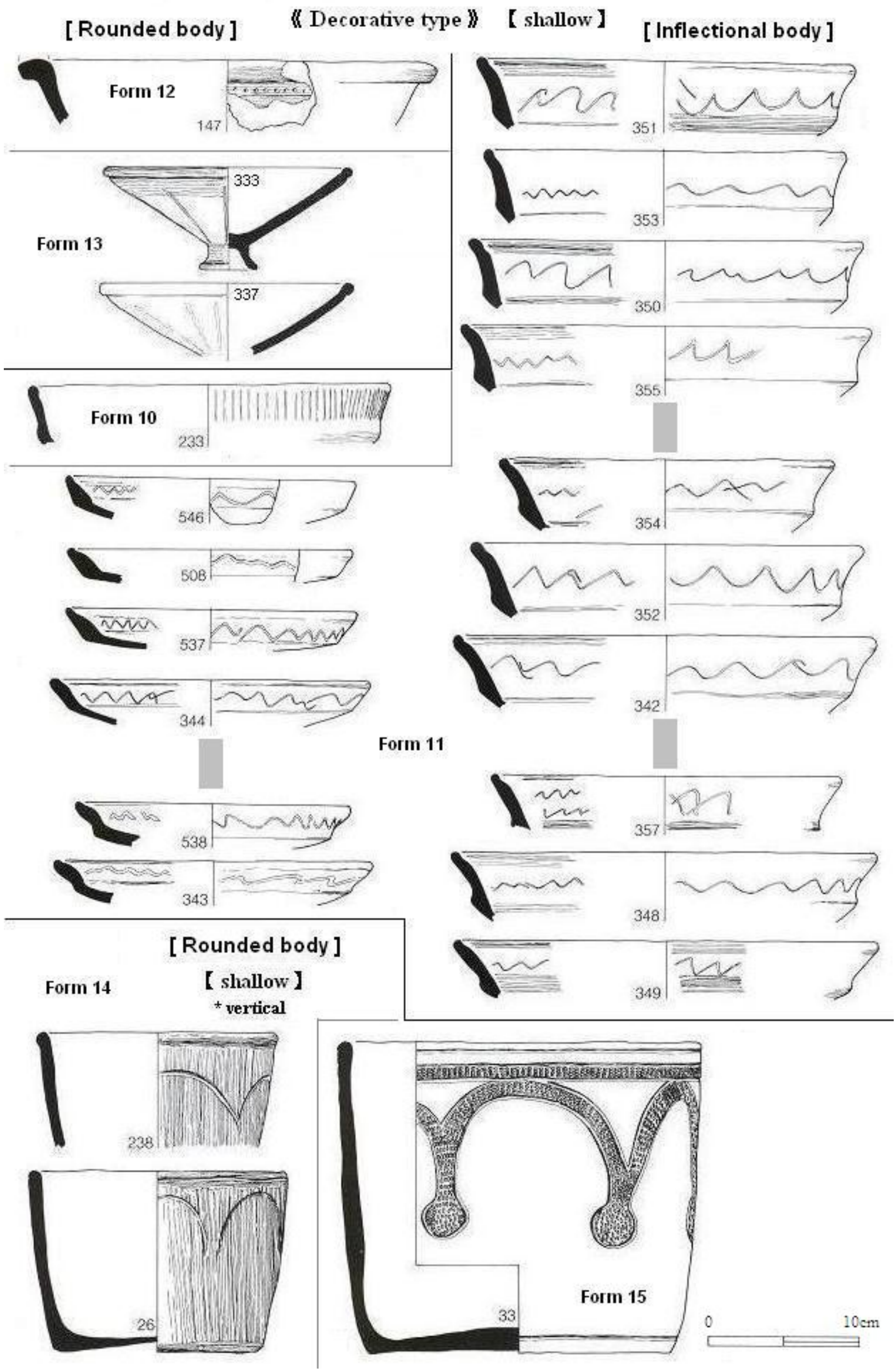


Fig. 6.66 Typological classification of vessels in category ④ from Suddern Farm

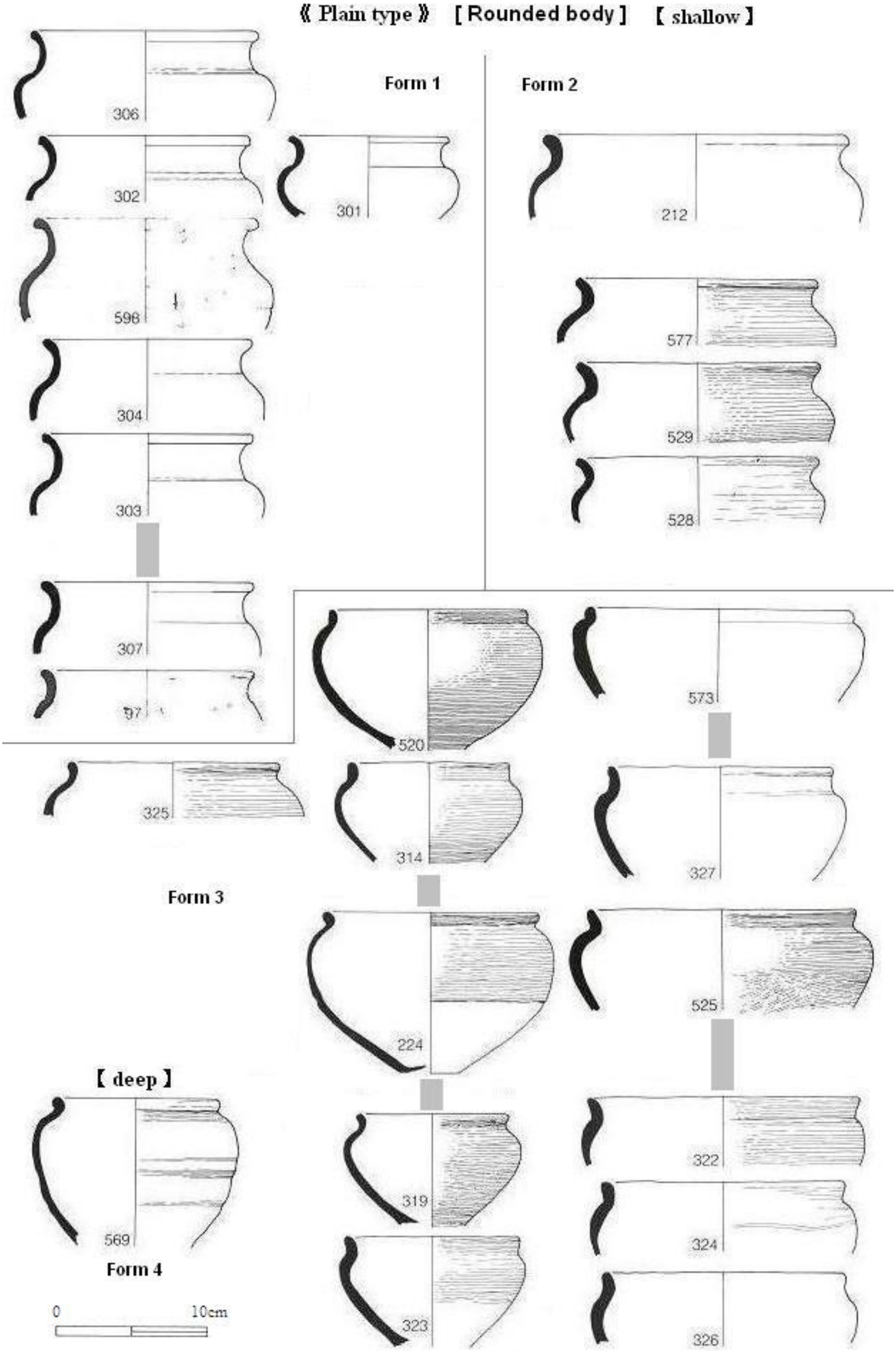


Fig. 6.67 Typological classification of vessels in category ③ from Suddern Farm

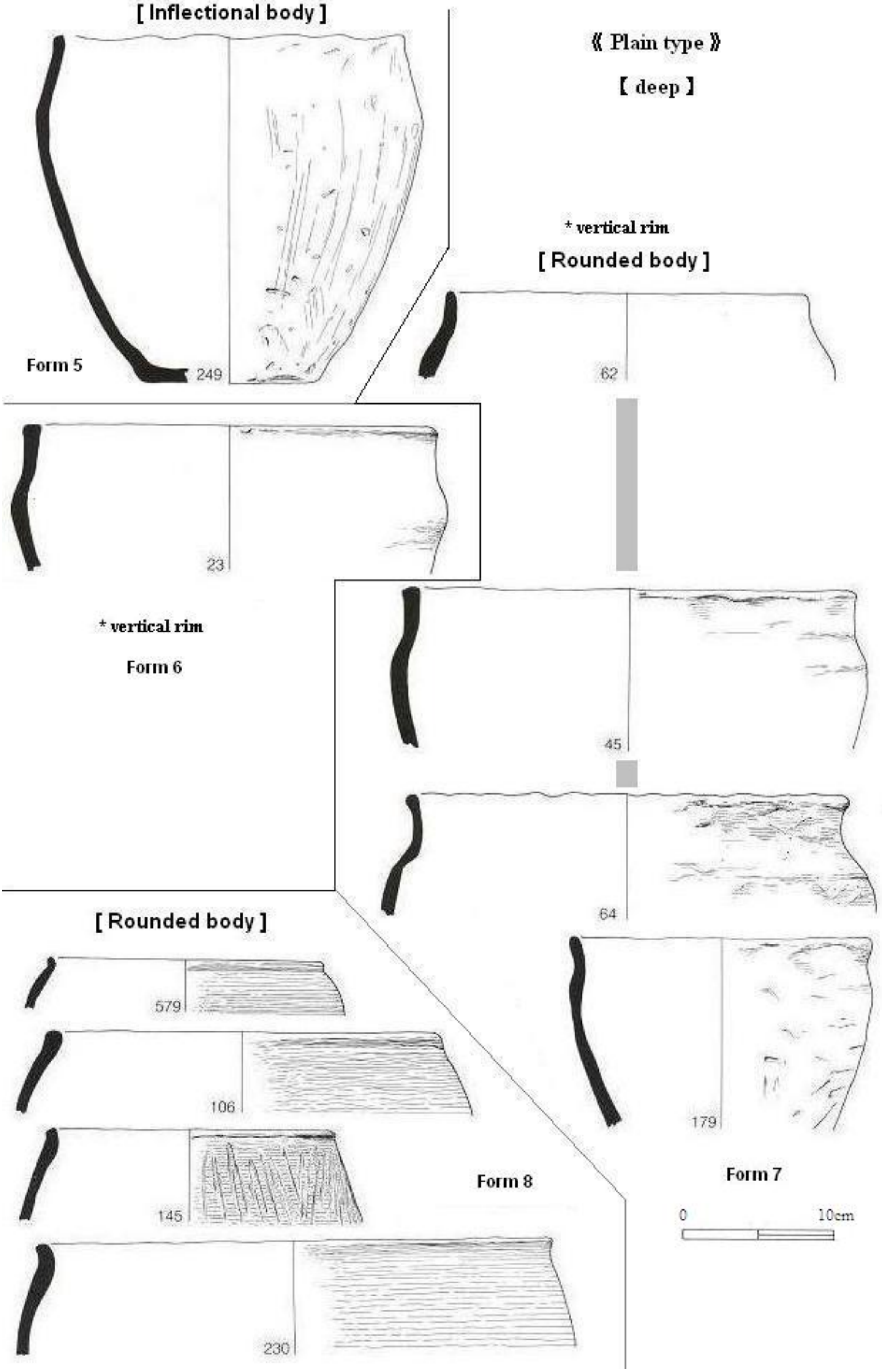


Fig. 6.68 Typological classification of vessels in category ③ from Suddern Farm

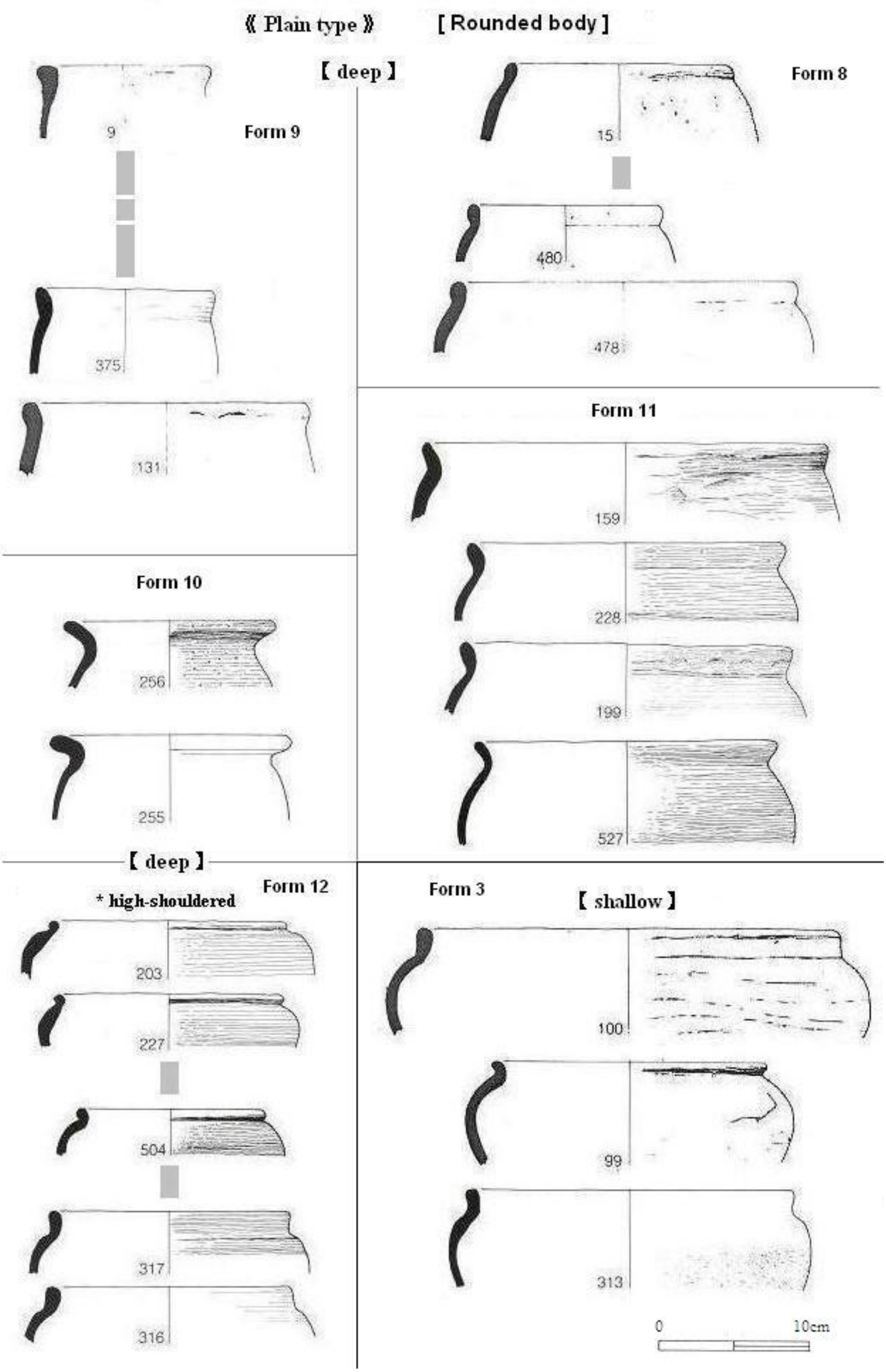


Fig. 6.69 Typological classification of vessels in category ③ from Suddern Farm

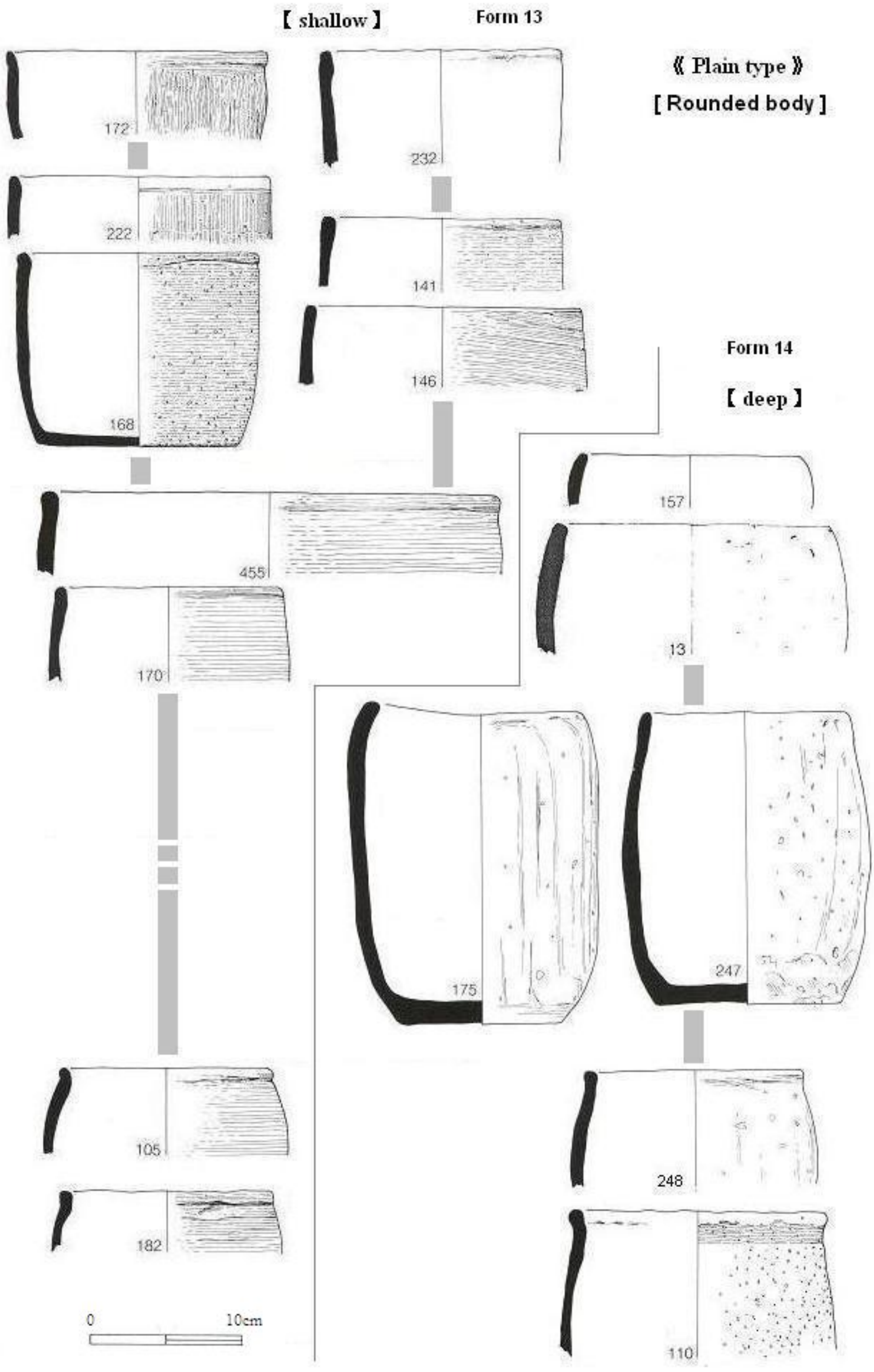


Fig. 6.70 Typological classification of vessels in category ③ from Suddern Farm

Fig. 6.71　Typological classification of vessels in category ③ from Suddern Farm

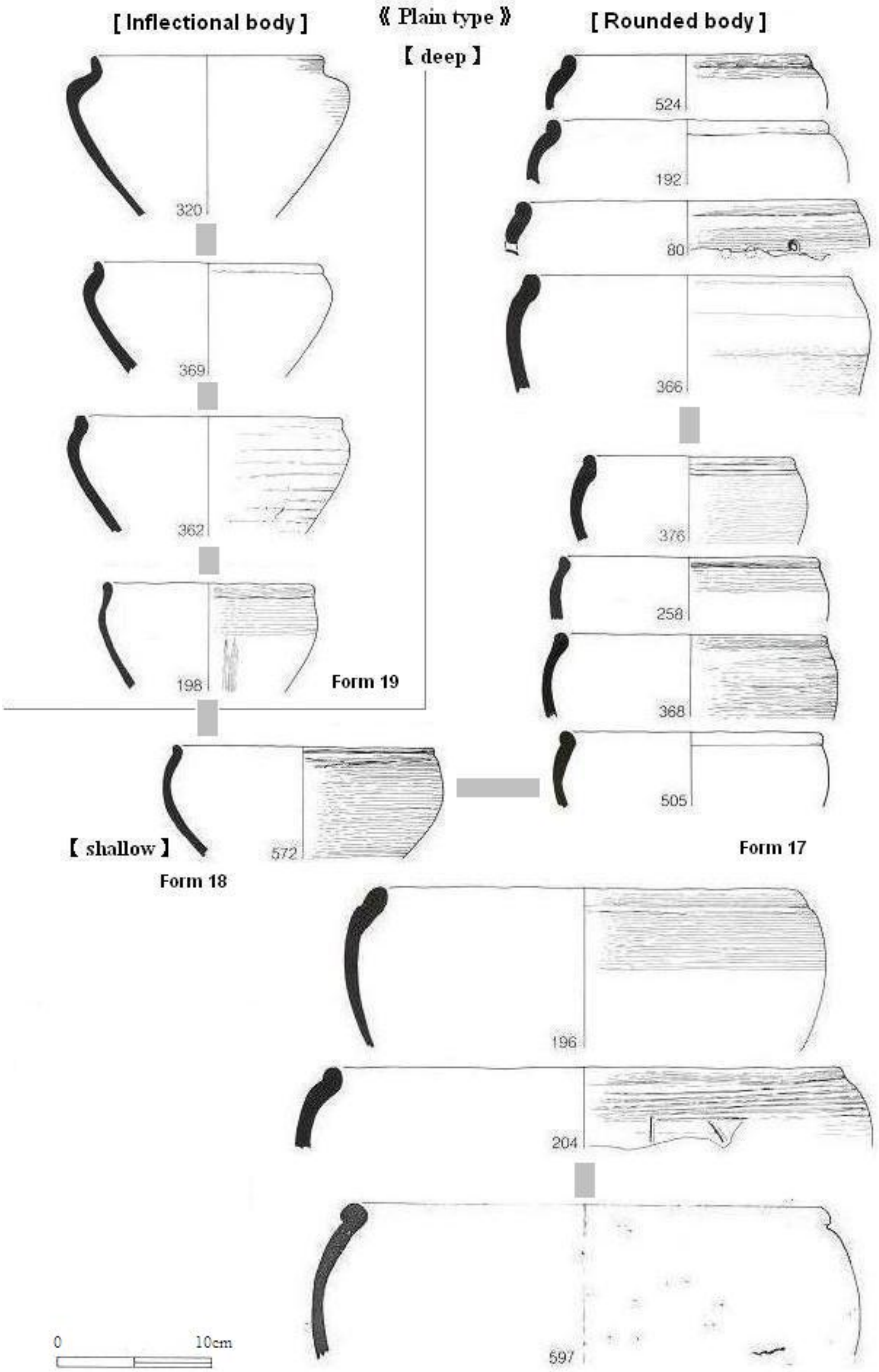


Fig. 6.72 Typological classification of vessels in category ③ from Suddern Farm

Fig. 6.73 Typological classification of vessels in category ③ from Suddern Farm

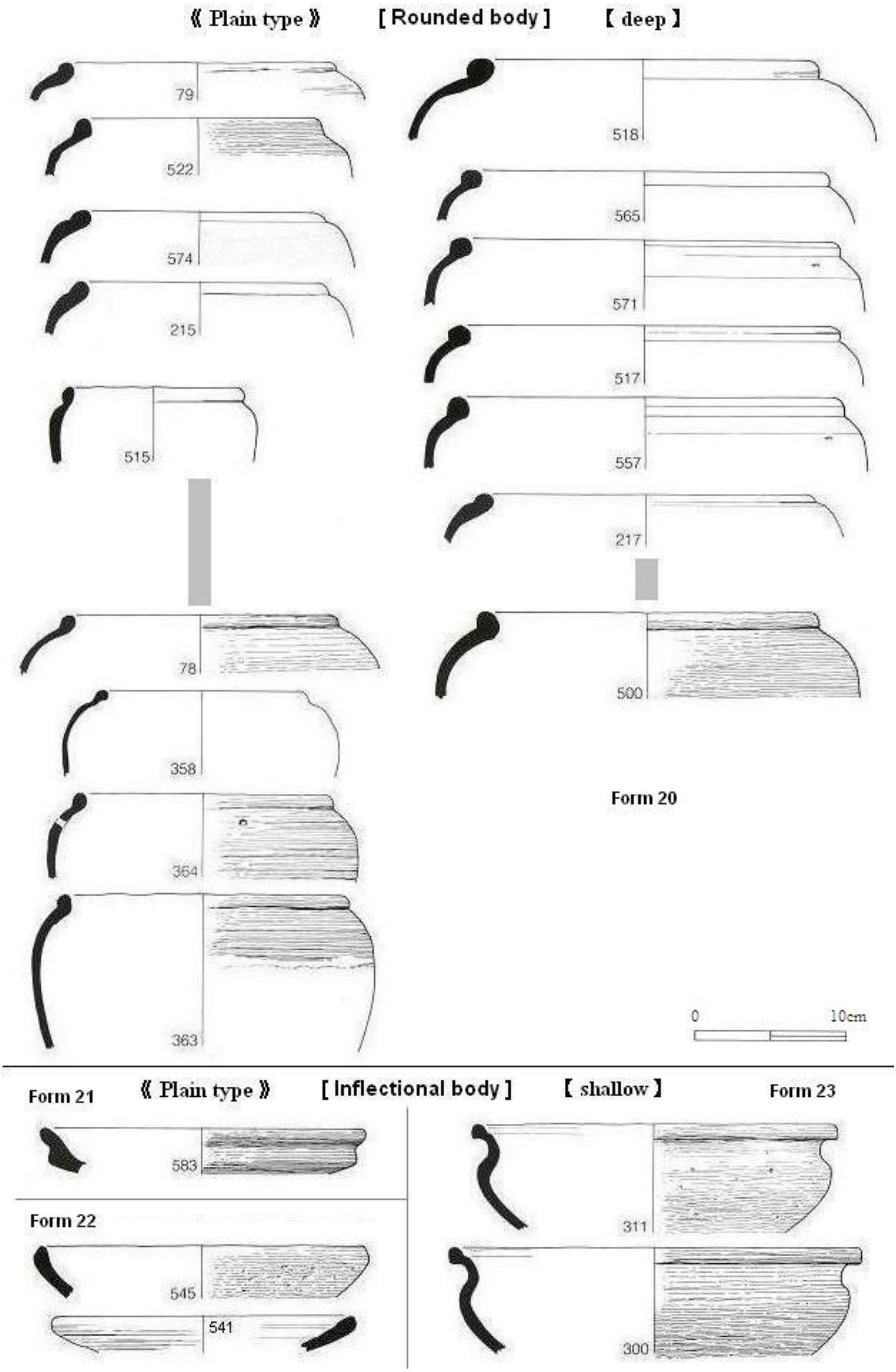


Fig. 6.74 Typological classification of vessels in category ③ from Suddern Farm

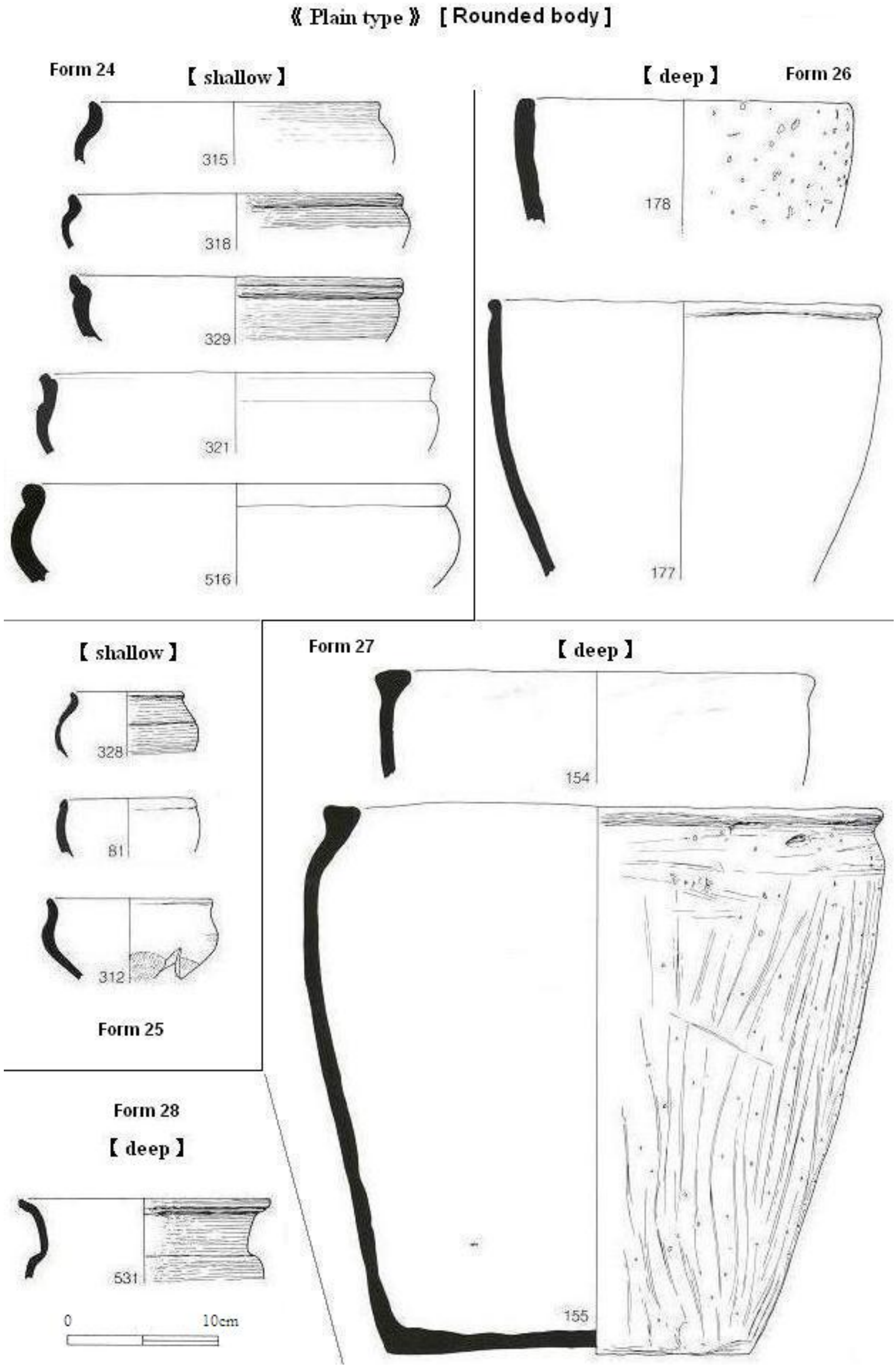


Fig. 6.75　Typological classification of vessels in category ③ from Suddern Farm

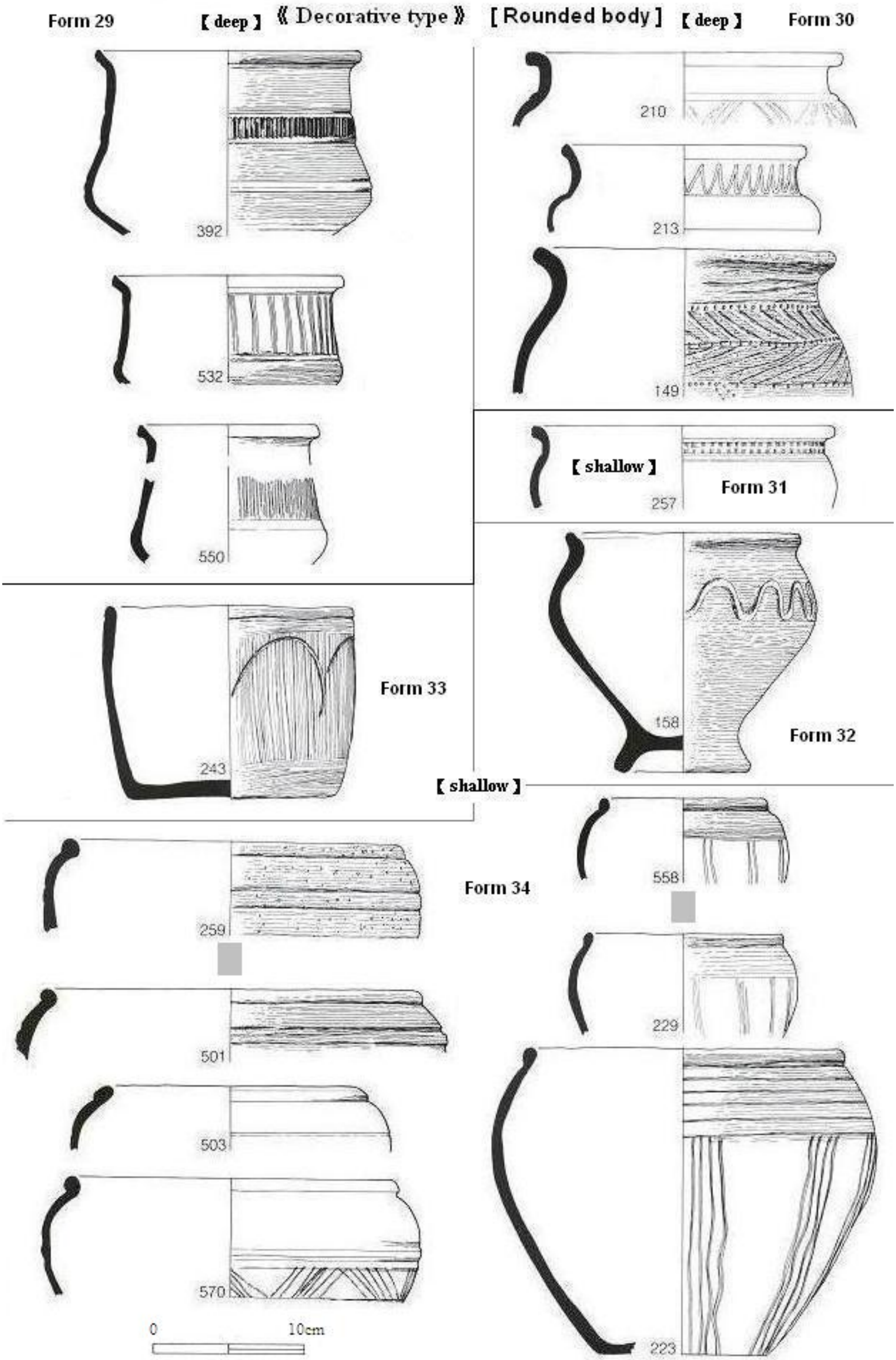


Fig. 6.76 Typological classification of vessels in category ③ from Suddern Farm

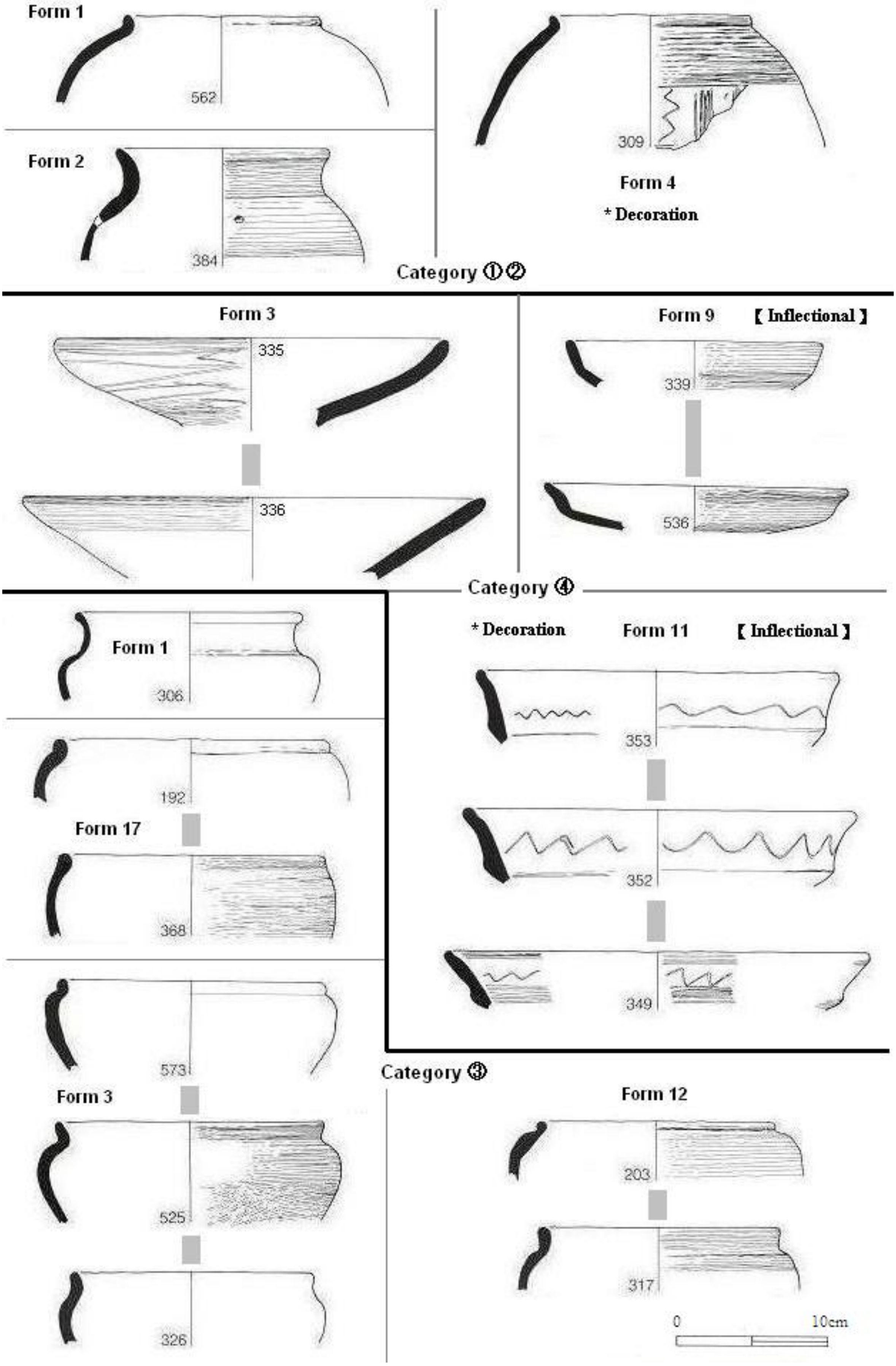


Fig. 6.77 Main vessel forms in categories ①②(above), ④(middle), ③(below) from Suddern Farm

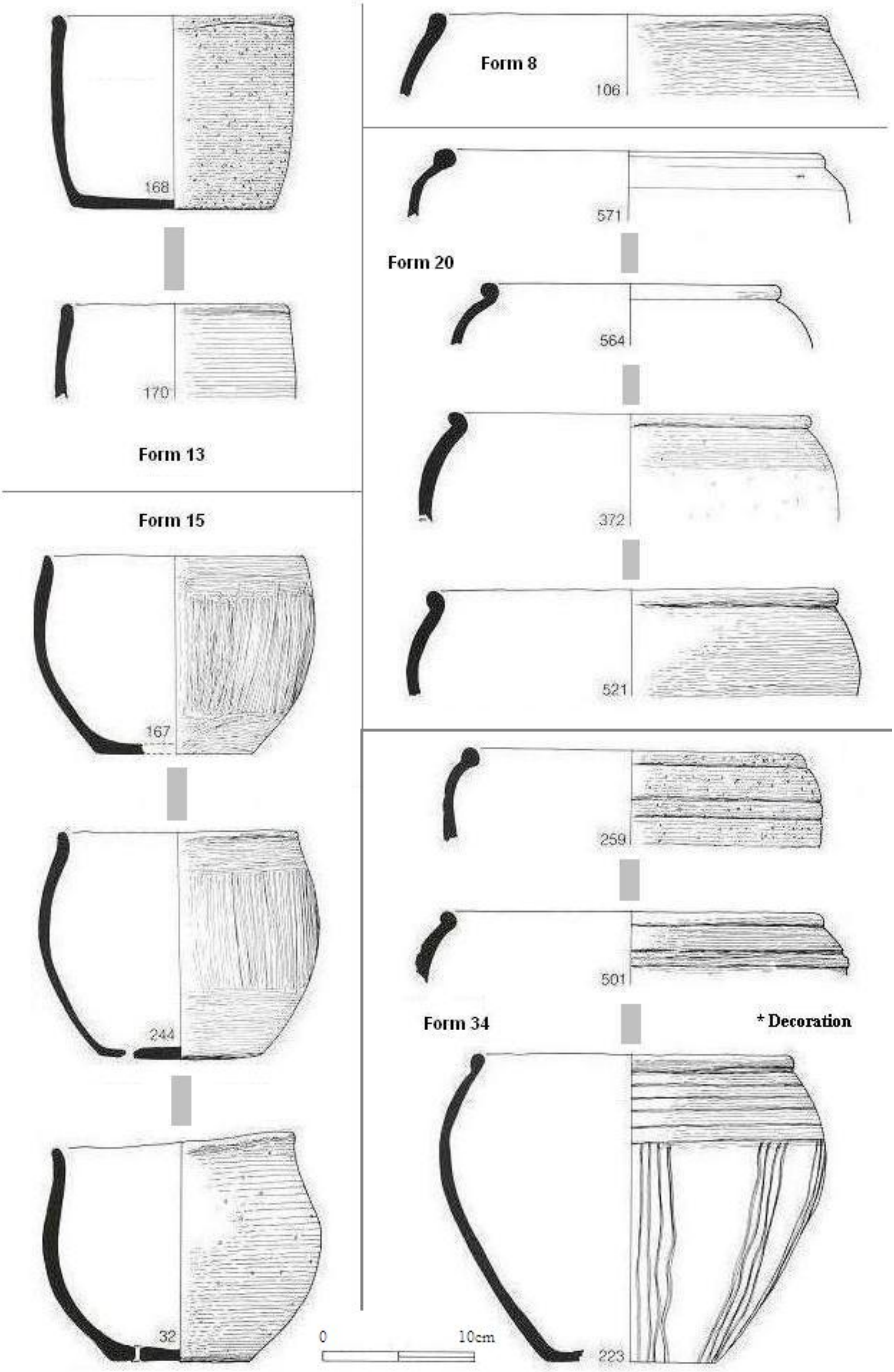


Fig. 6.78 Main vessel forms in category ③ from Suddern Farm

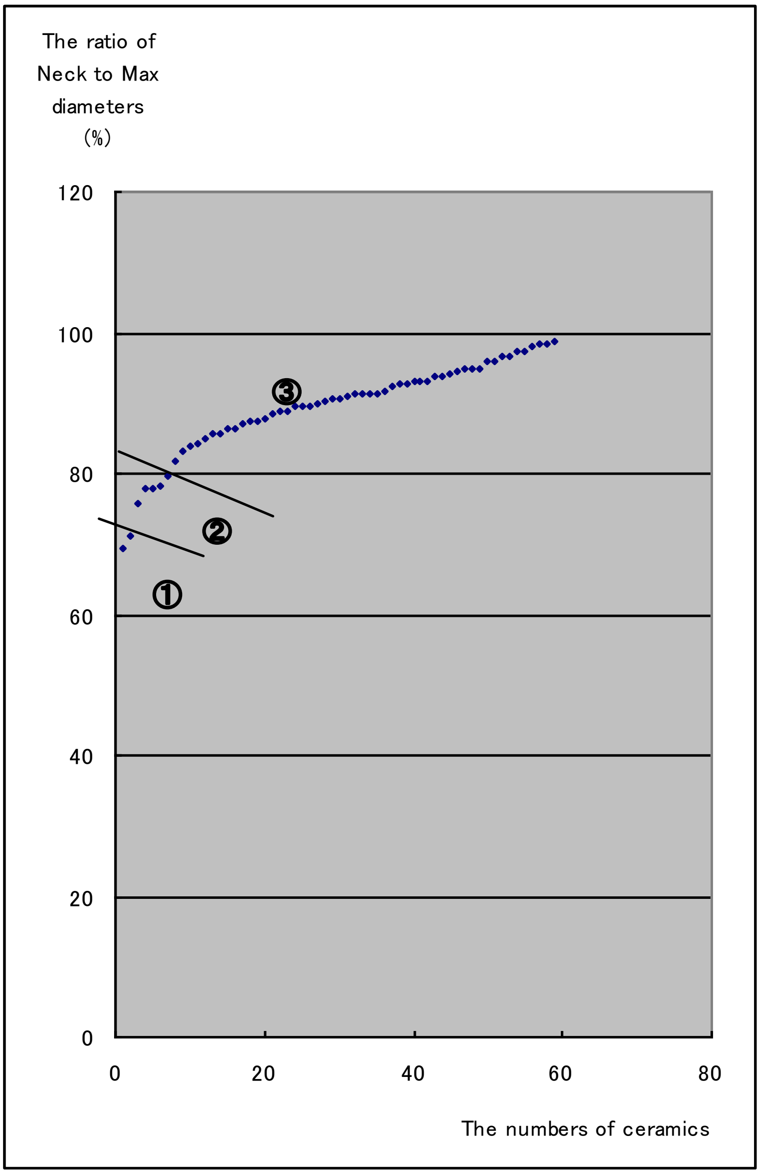


Fig. 6.79　The ratios of neck diameters to max diameters of Iron Age vessels from Houghton Down

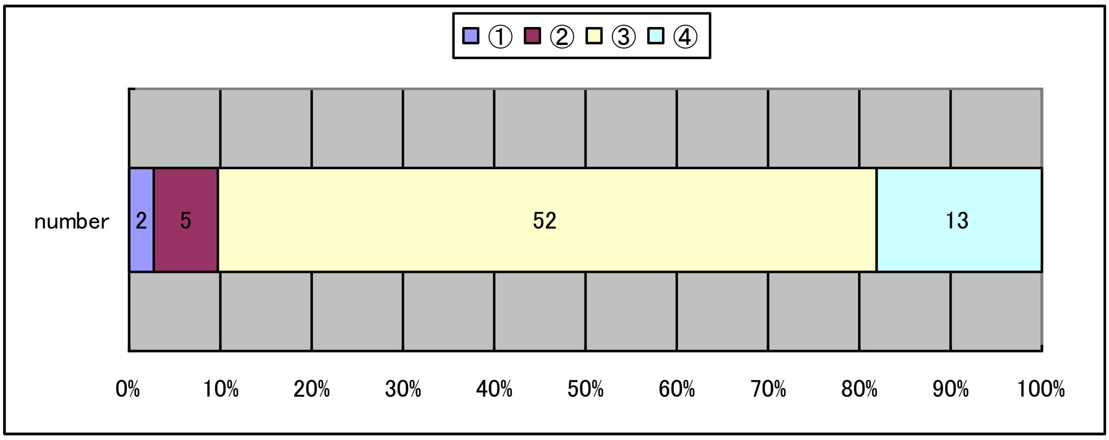


Fig. 6.80　The percentage of each Category of Iron Age vessels from Houghton Down

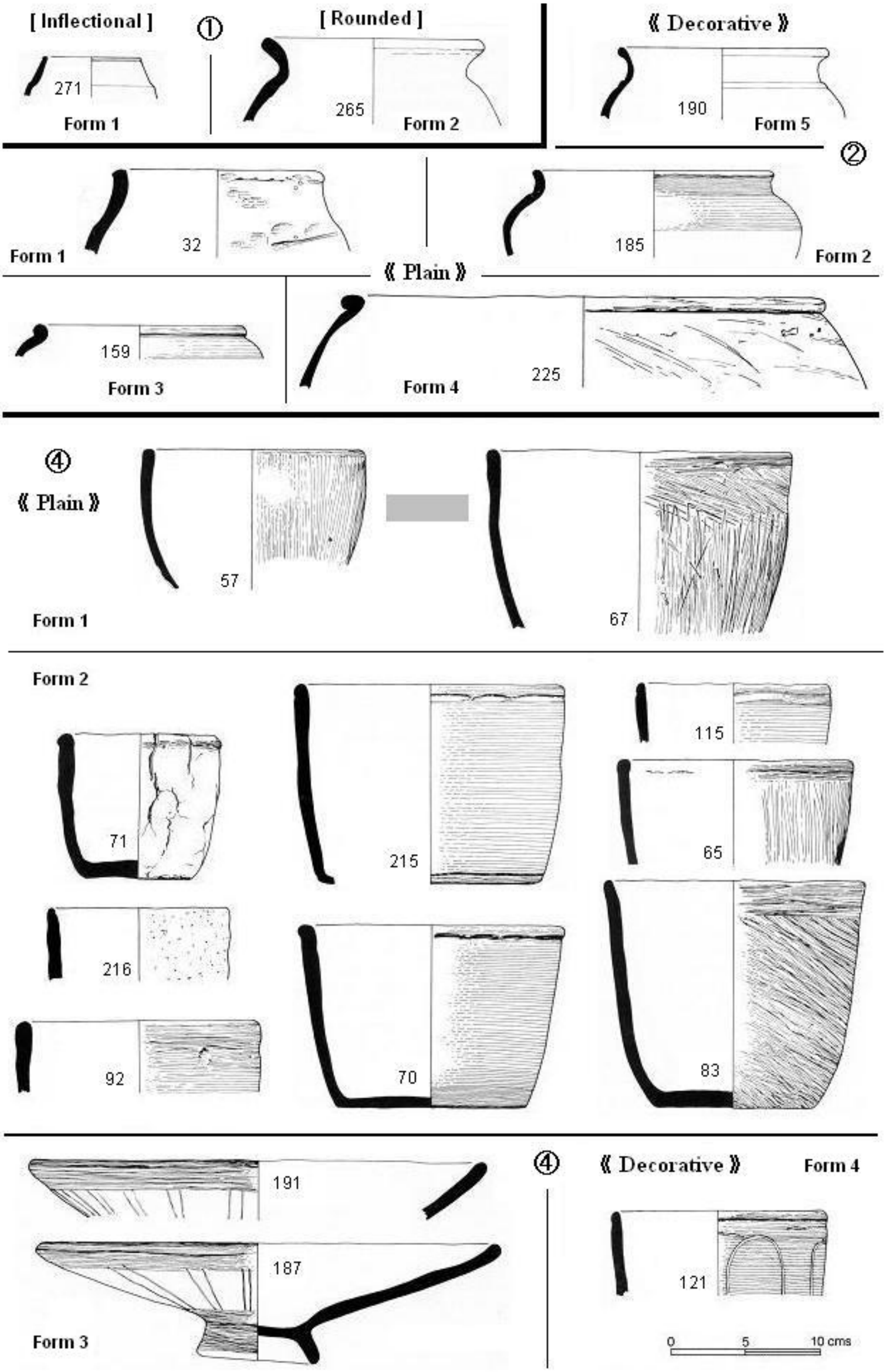


Fig. 6.81 Typological classification of vessels from Houghton Down (Categories ①②④)

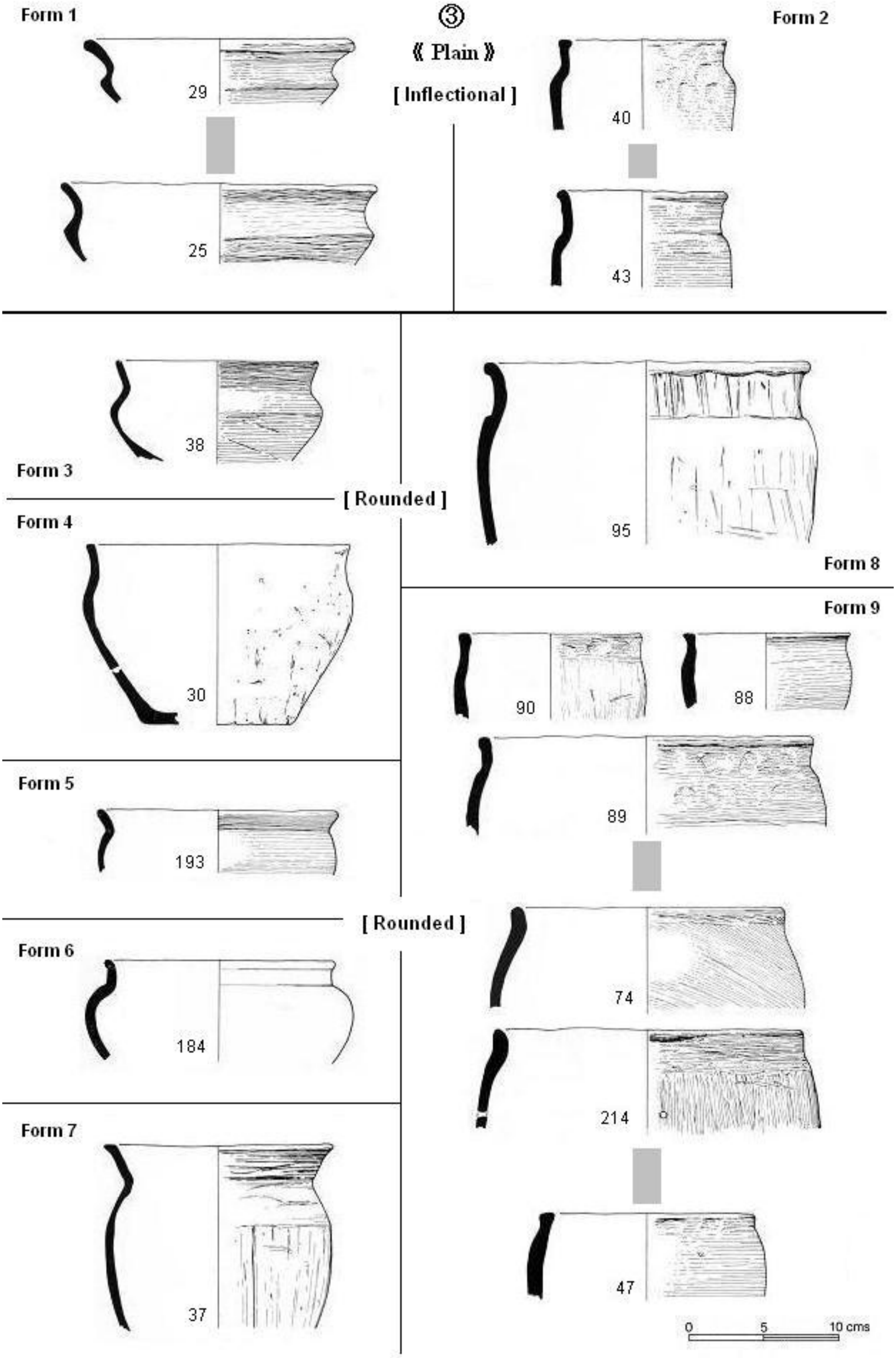


Fig. 6.82 Typological classification of vessels from Houghton Down (Category ③-1)

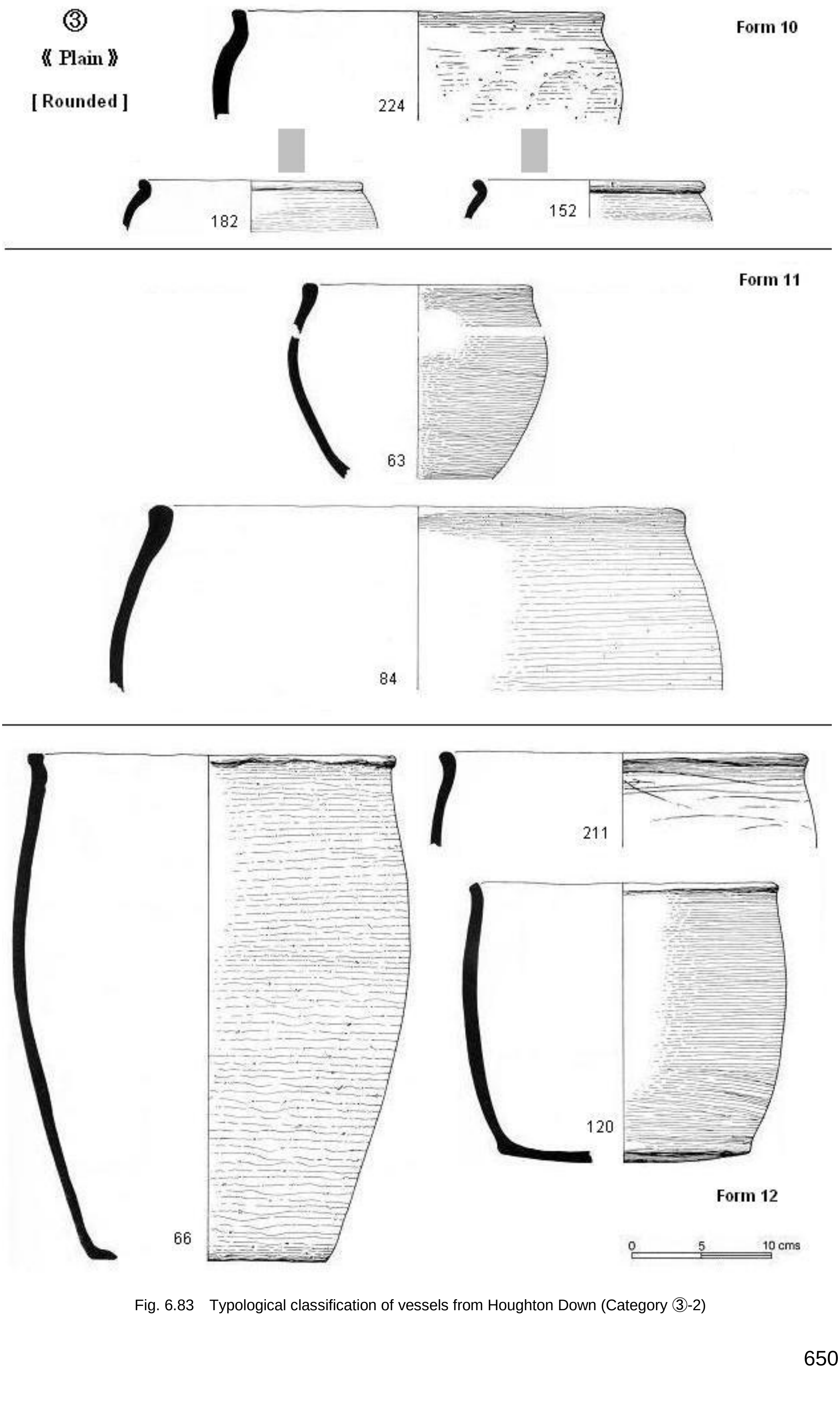


Fig. 6.83 Typological classification of vessels from Houghton Down (Category ③-2)

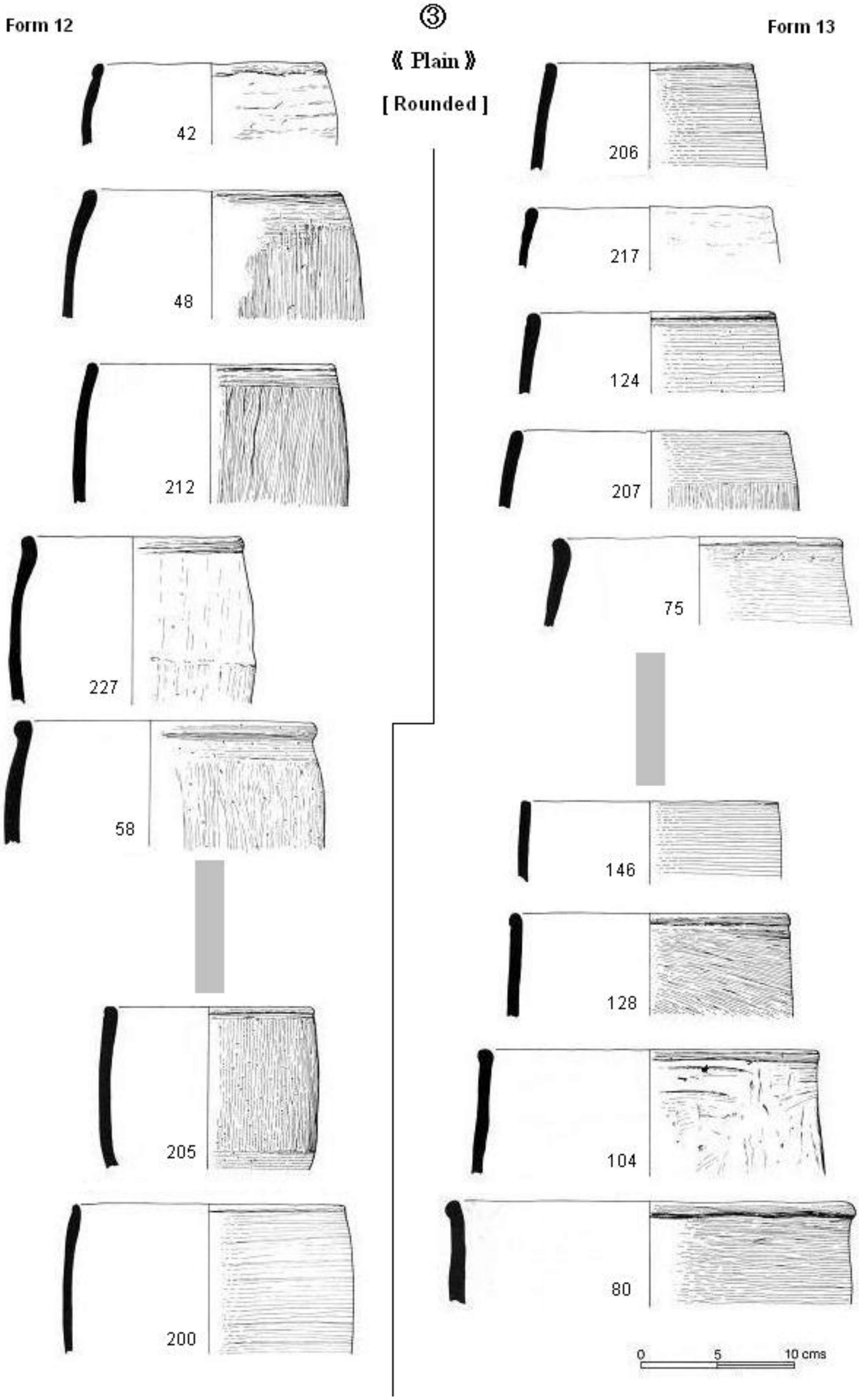


Fig. 6.84 Typological classification of vessels from Houghton Down (Category ③-3)

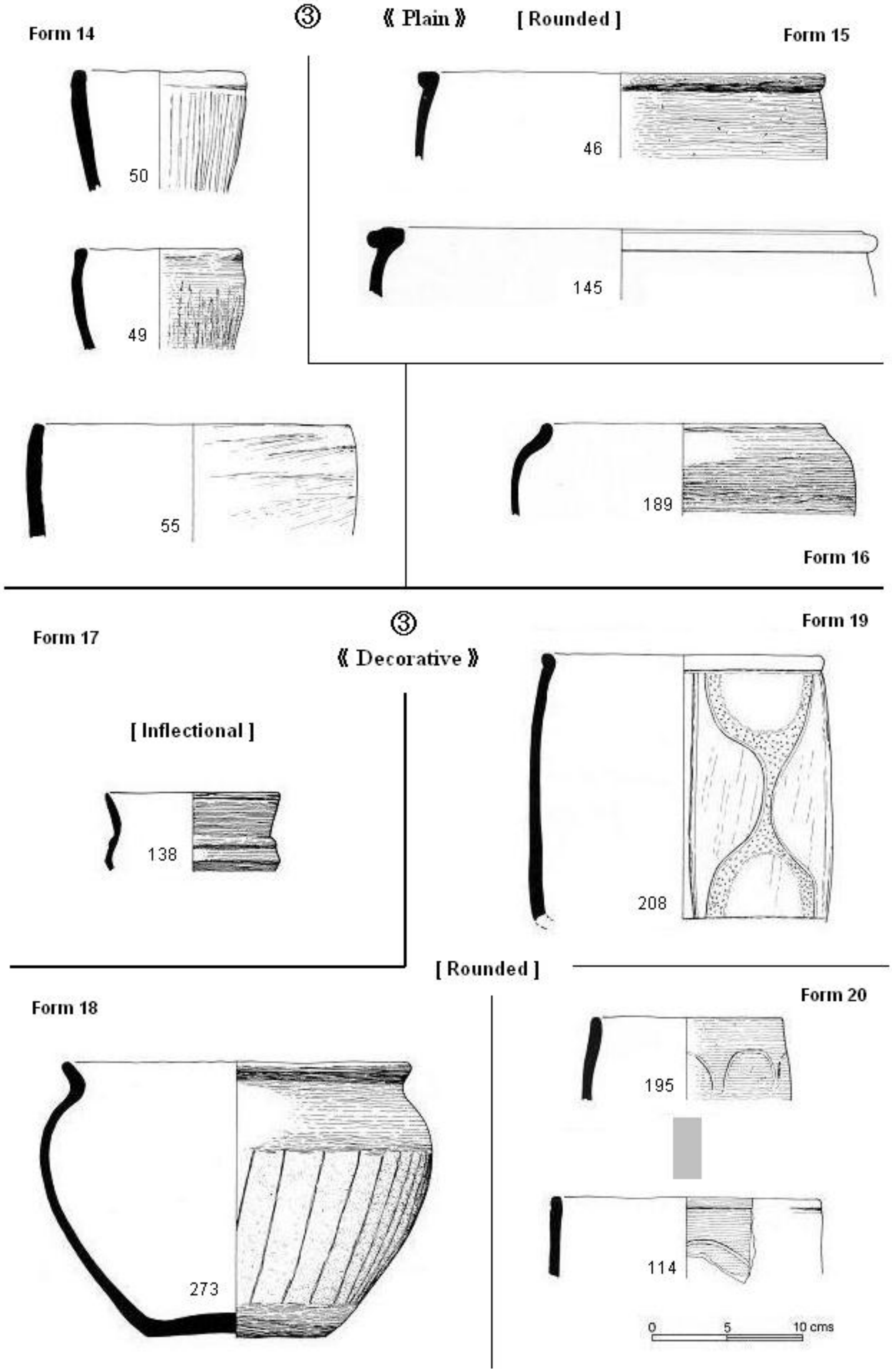


Fig. 6.85 Typological classification of vessels from Houghton Down (Category ③-4)

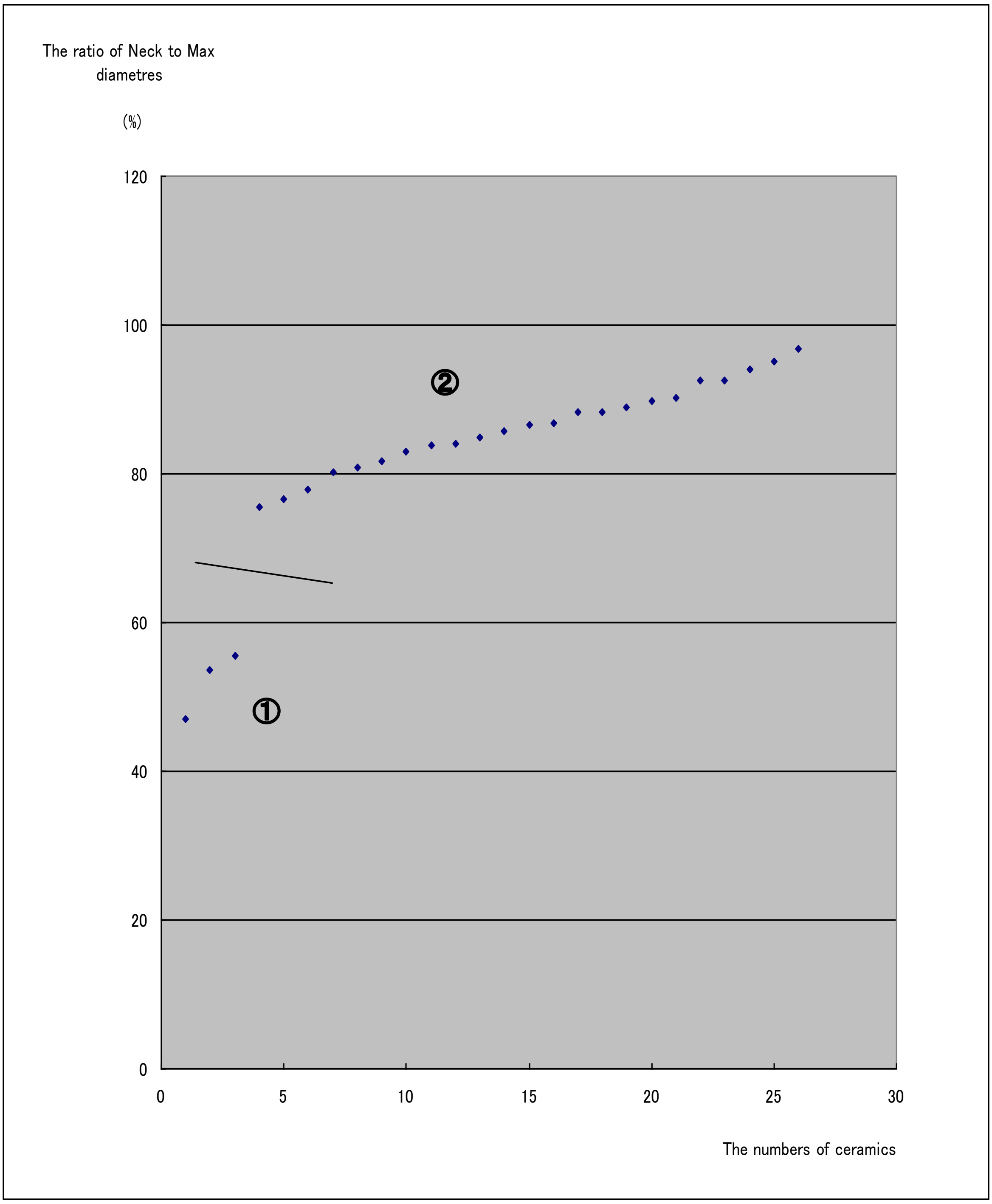


Fig. 6.86 The ratios of neck diameters to max diameters of Iron Age vessels from Woolbury

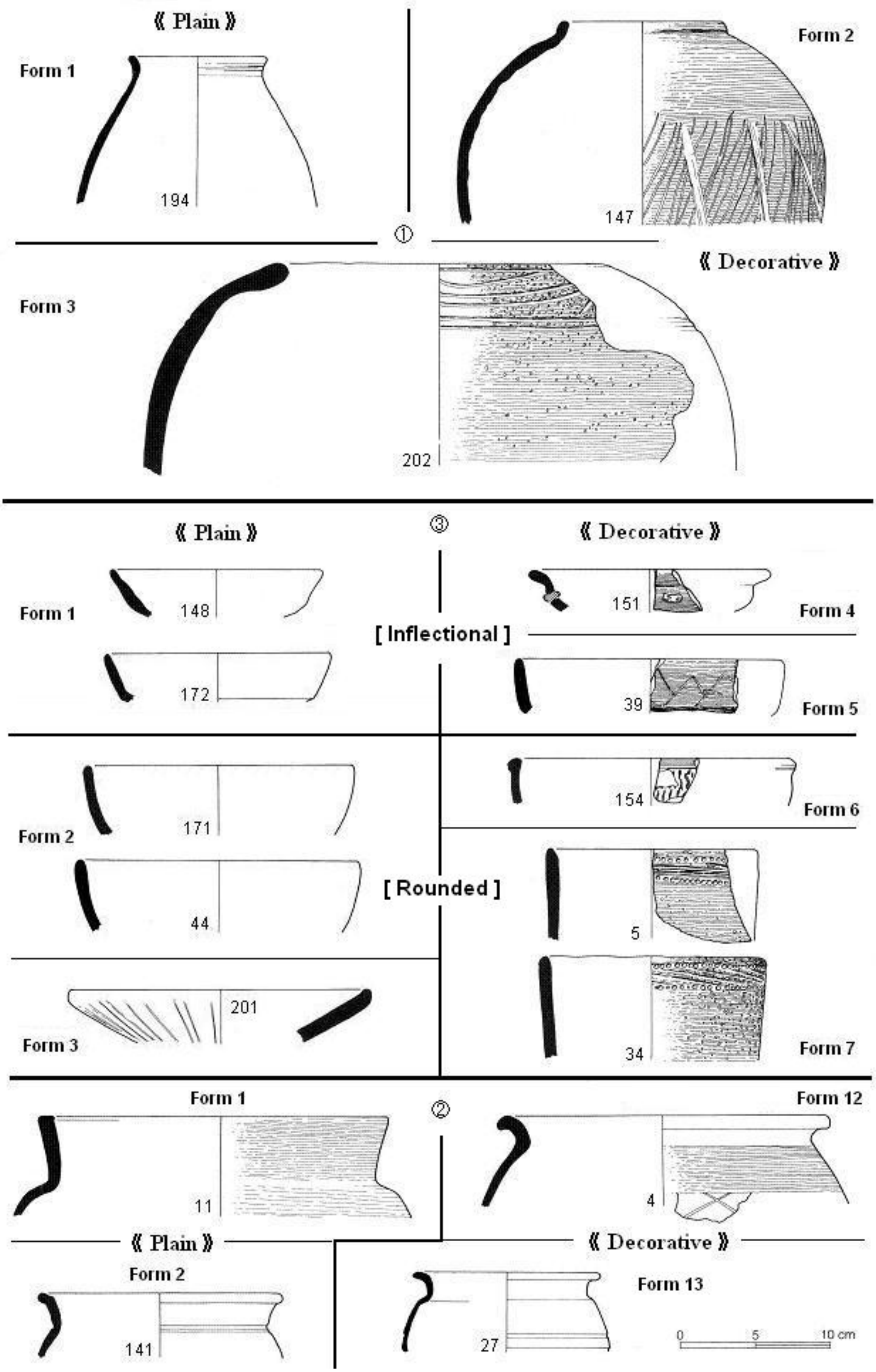


Fig. 6.87 Typological classification of vessels from Woolbury (Categories ①②③)

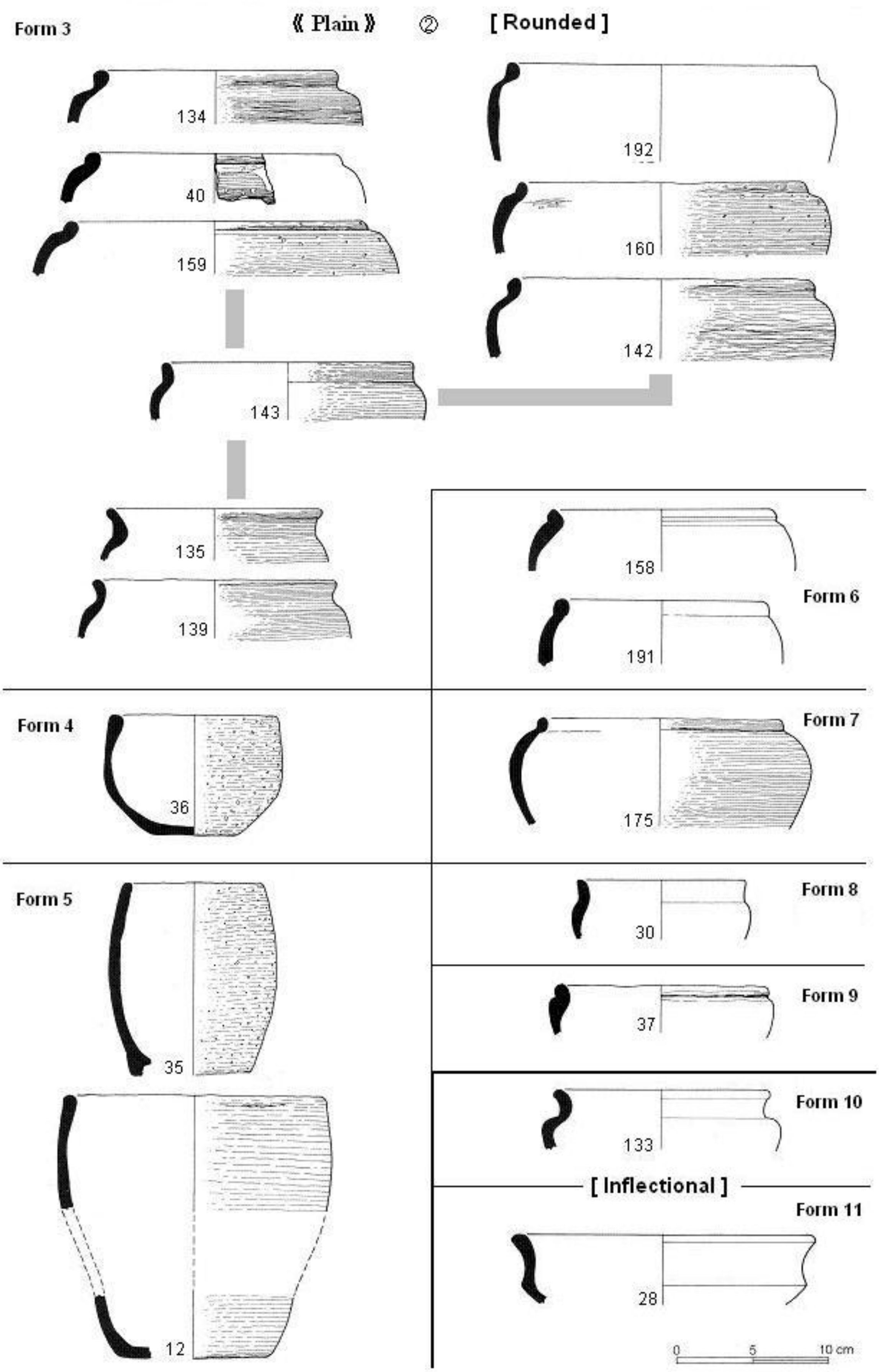


Fig. 6.88 Typological classification of vessels from Woolbury (Category ②)

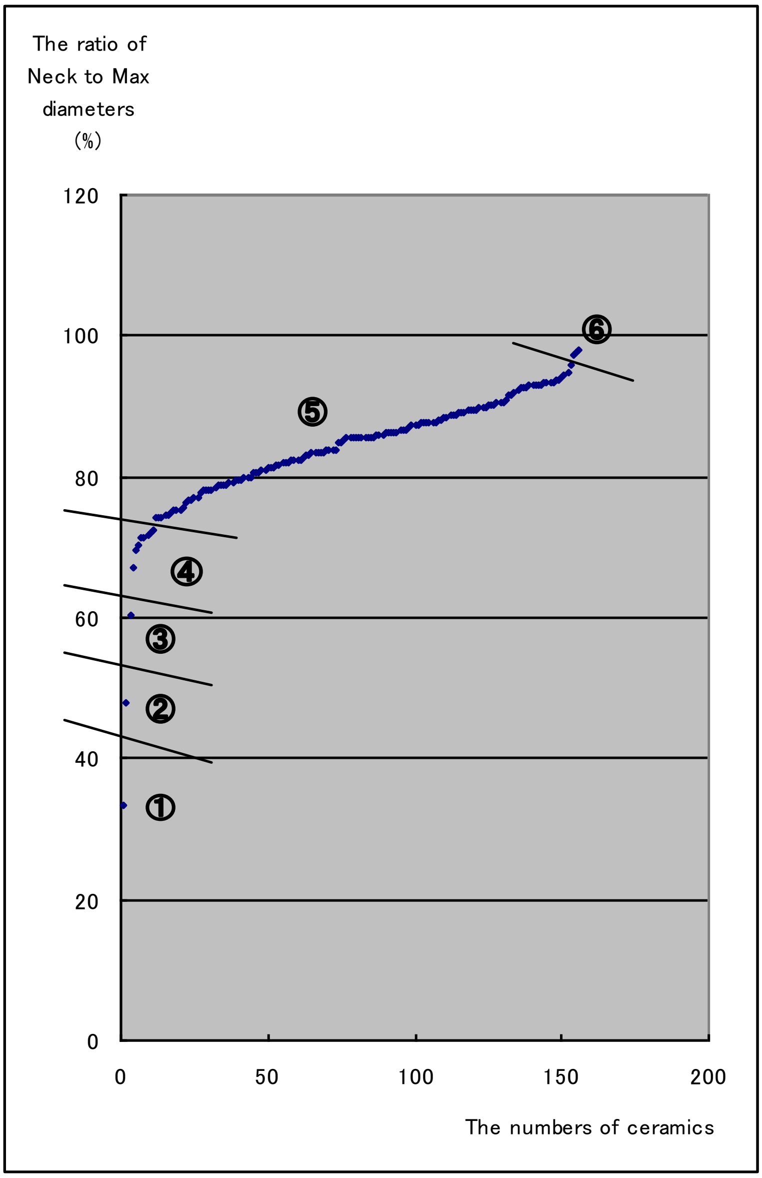


Fig. 6.89 The ratios of neck diameters to max diameters of Iron Age vessels from Nettlebank Copse

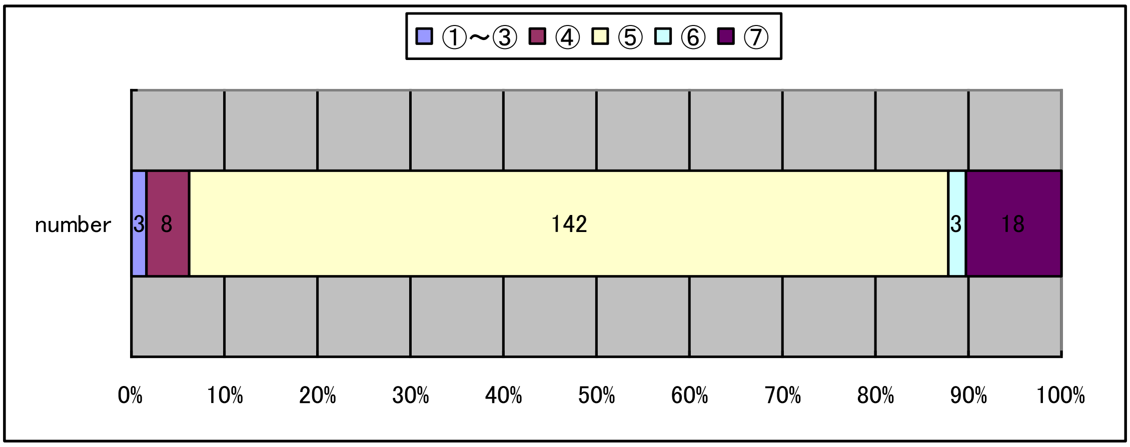


Fig. 6.90 The percentage of each Category of Iron Age vessels from Nettlebank Copse

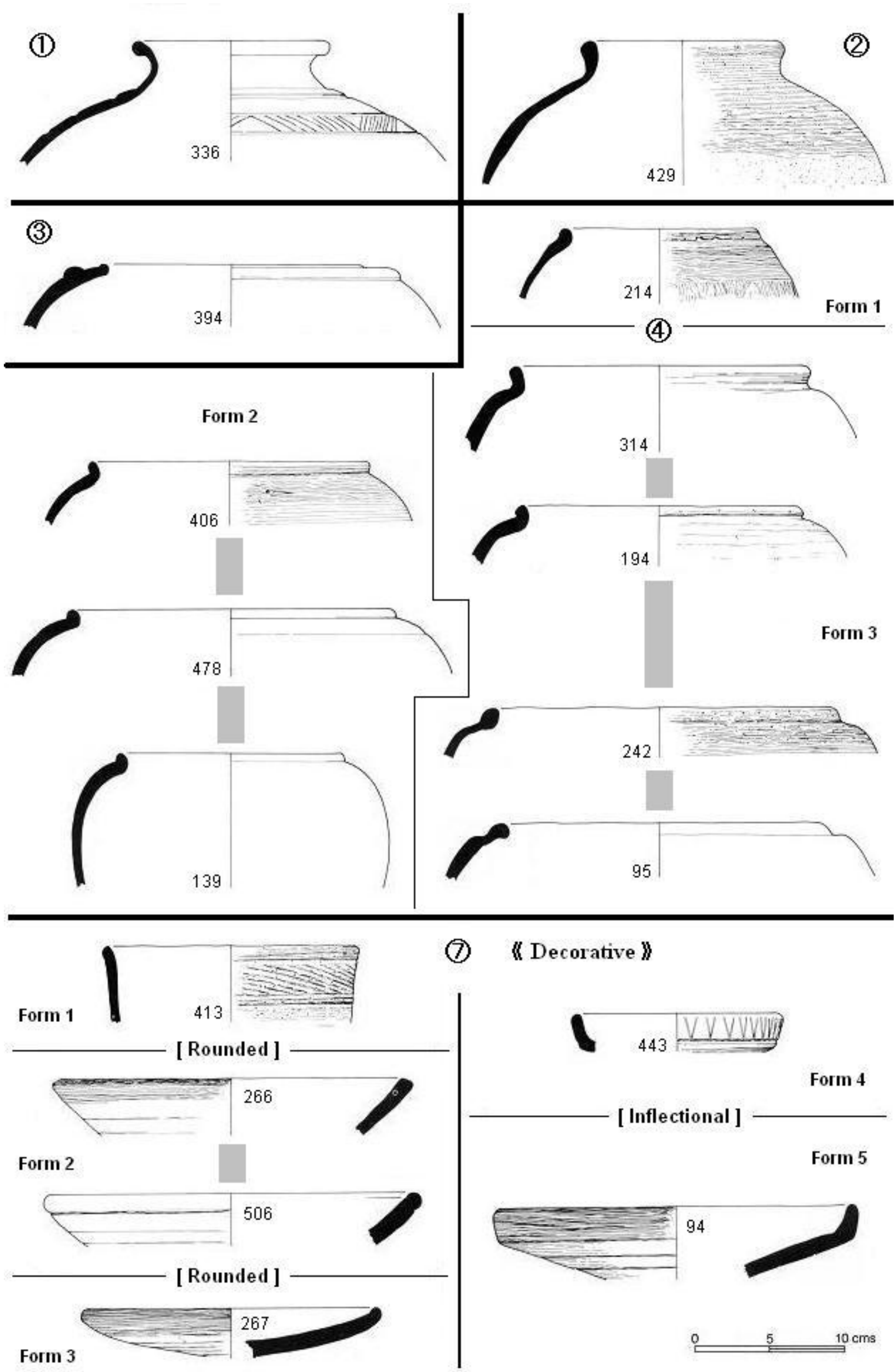


Fig. 6.91 Typological classification of vessels from Nettlebank Copse (Categories ①～④, ⑦-1)

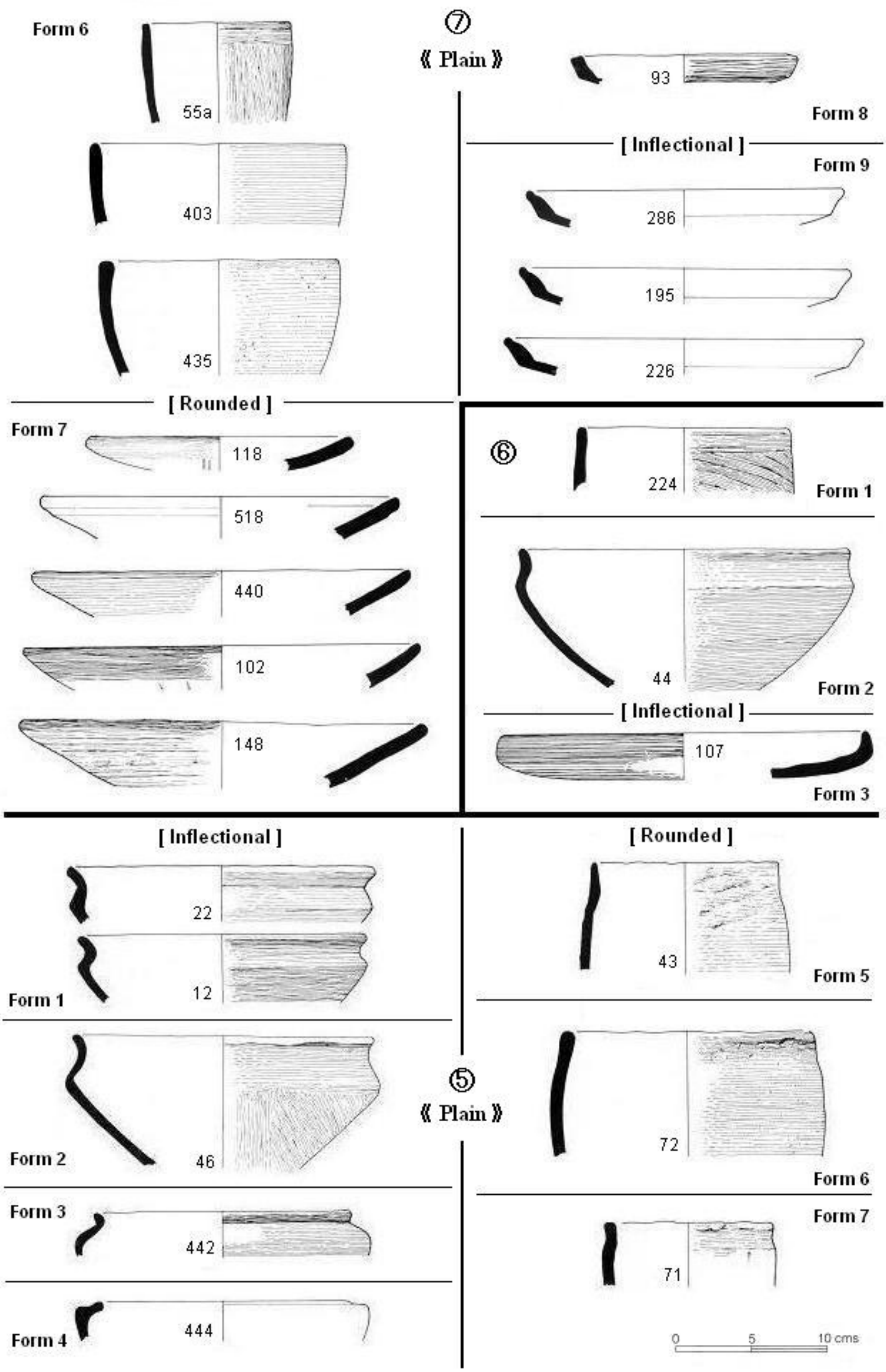


Fig. 6.92 Typological classification of vessels from Nettlebank Copse (Categories ⑤-1, ⑥, ⑦-2)

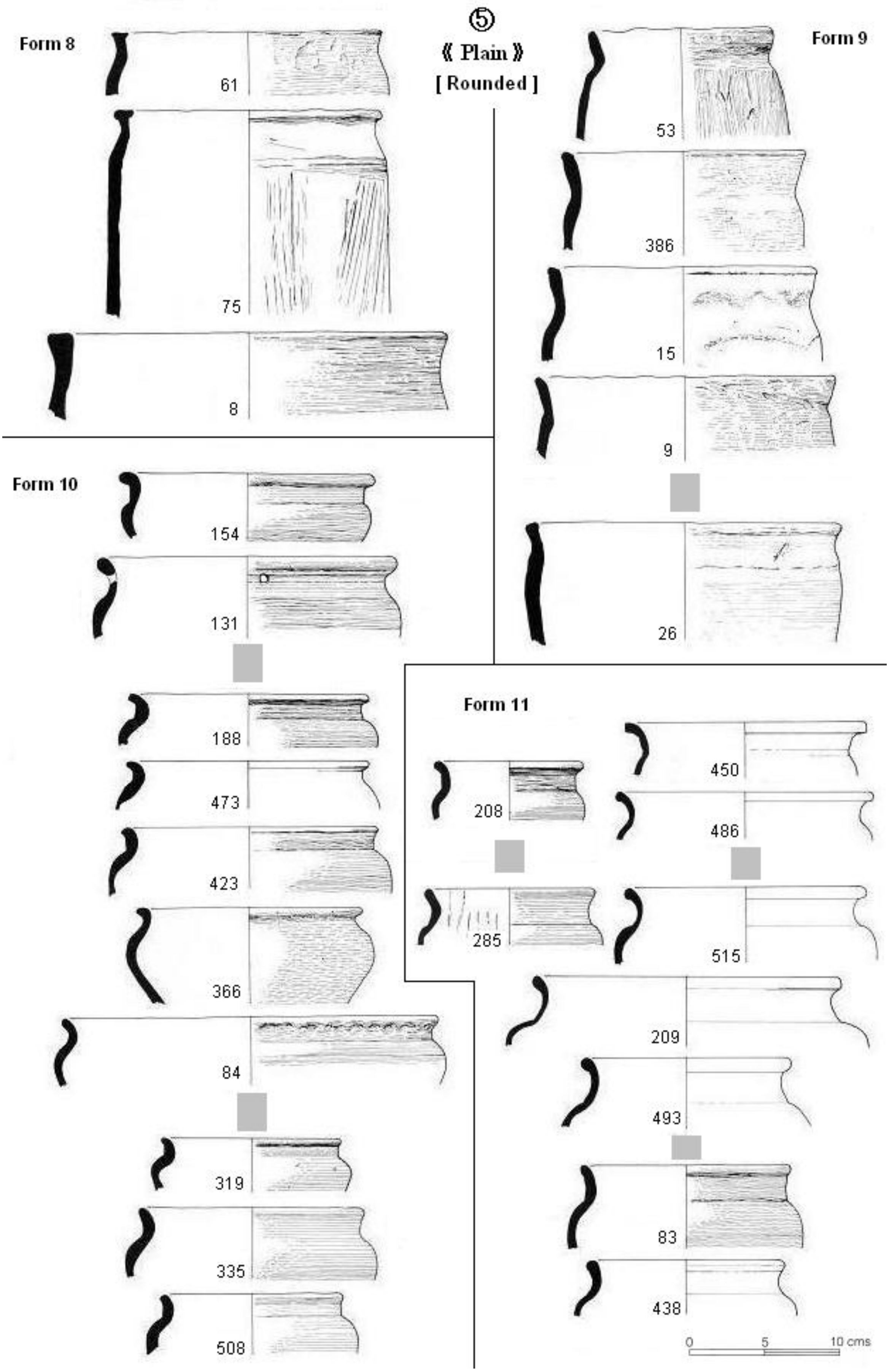


Fig. 6.93 Typological classification of vessels from Nettlebank Copse (Category ⑤-2)

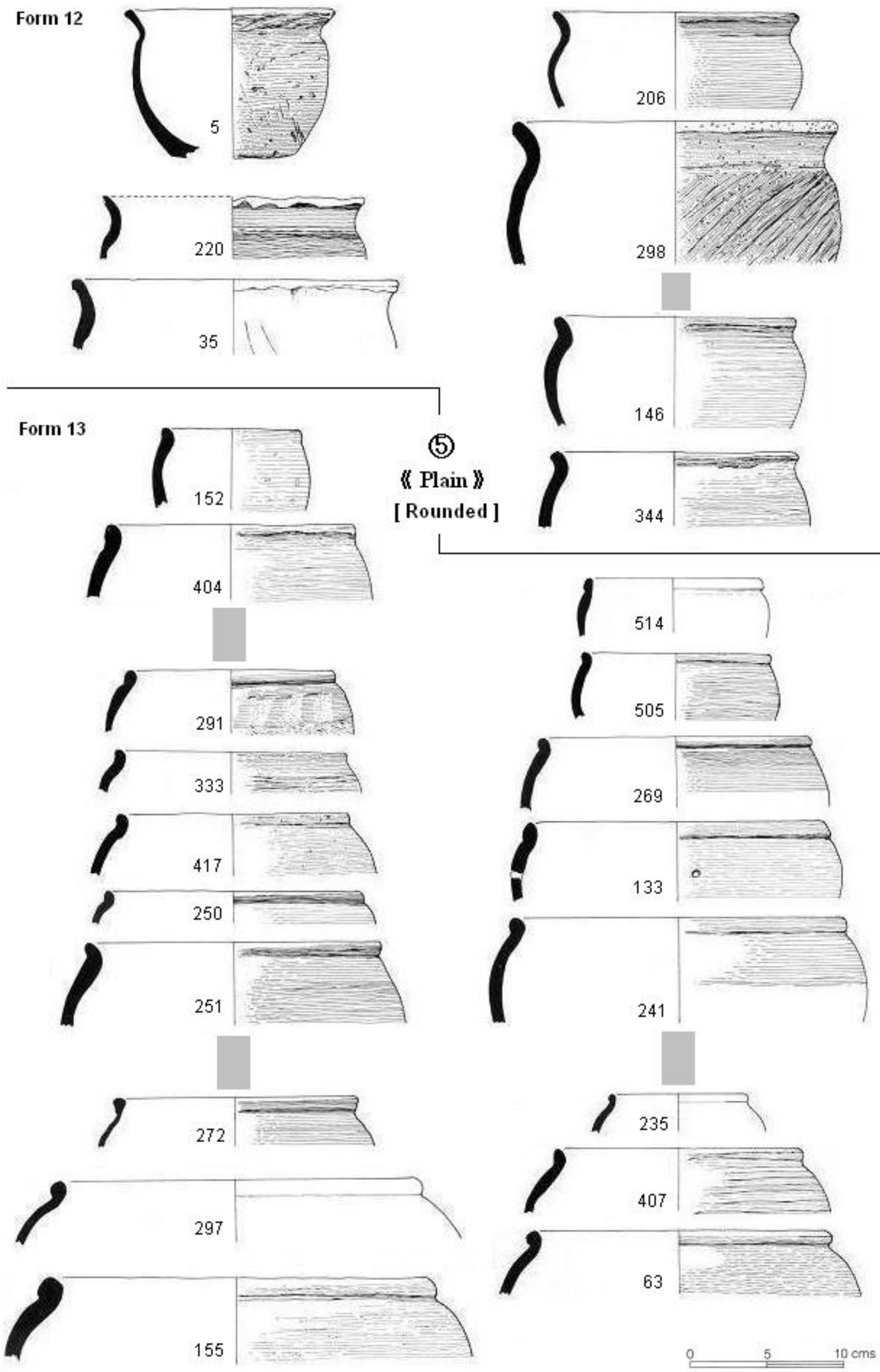


Fig. 6.94 Typological classification of vessels from Nettlebank Copse (Category ⑤-3)

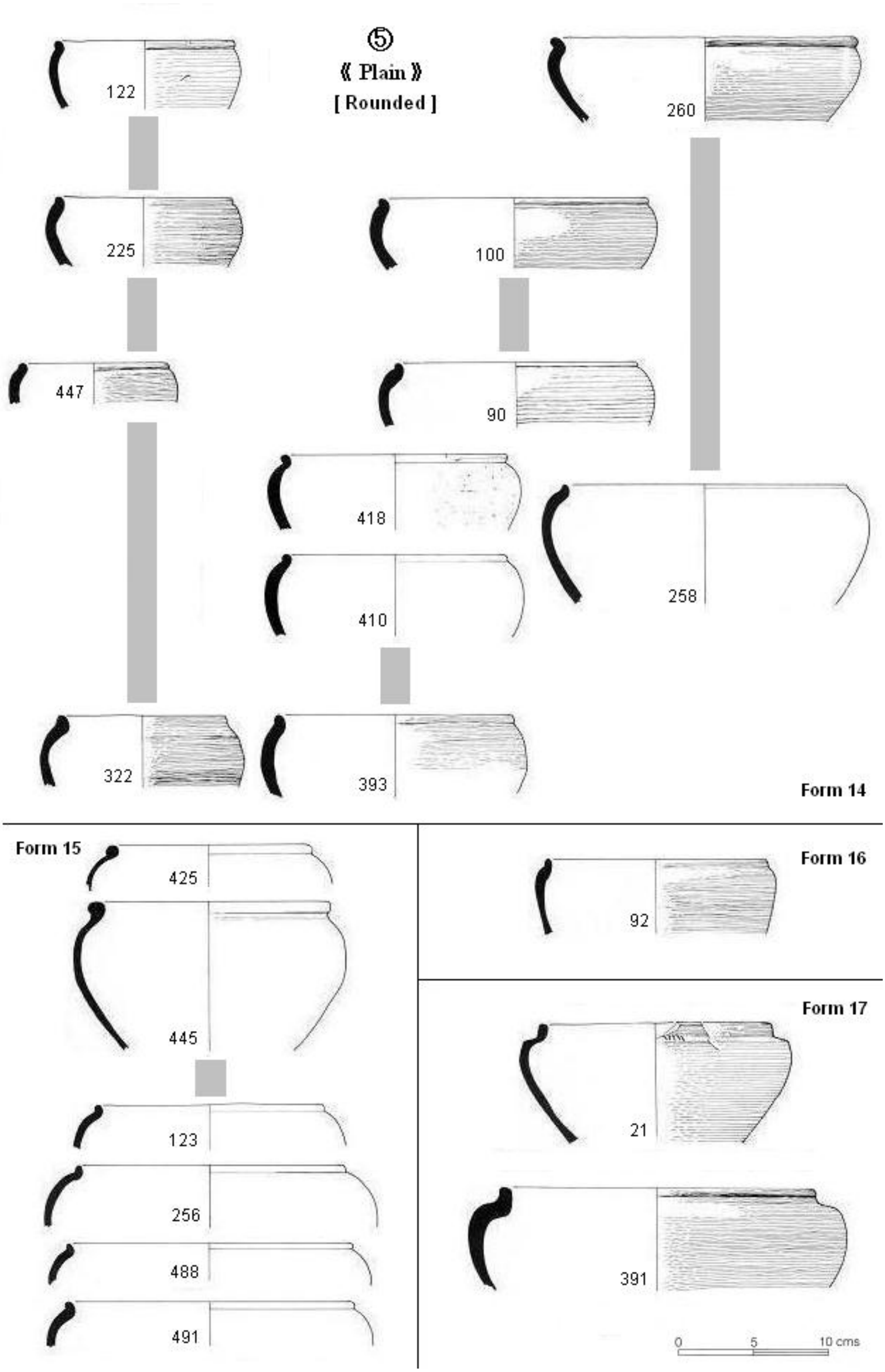


Fig. 6.95 Typological classification of vessels from Nettlebank Copse (Category ⑤-4)

⑤ 《Plain》 [Rounded] Form 18

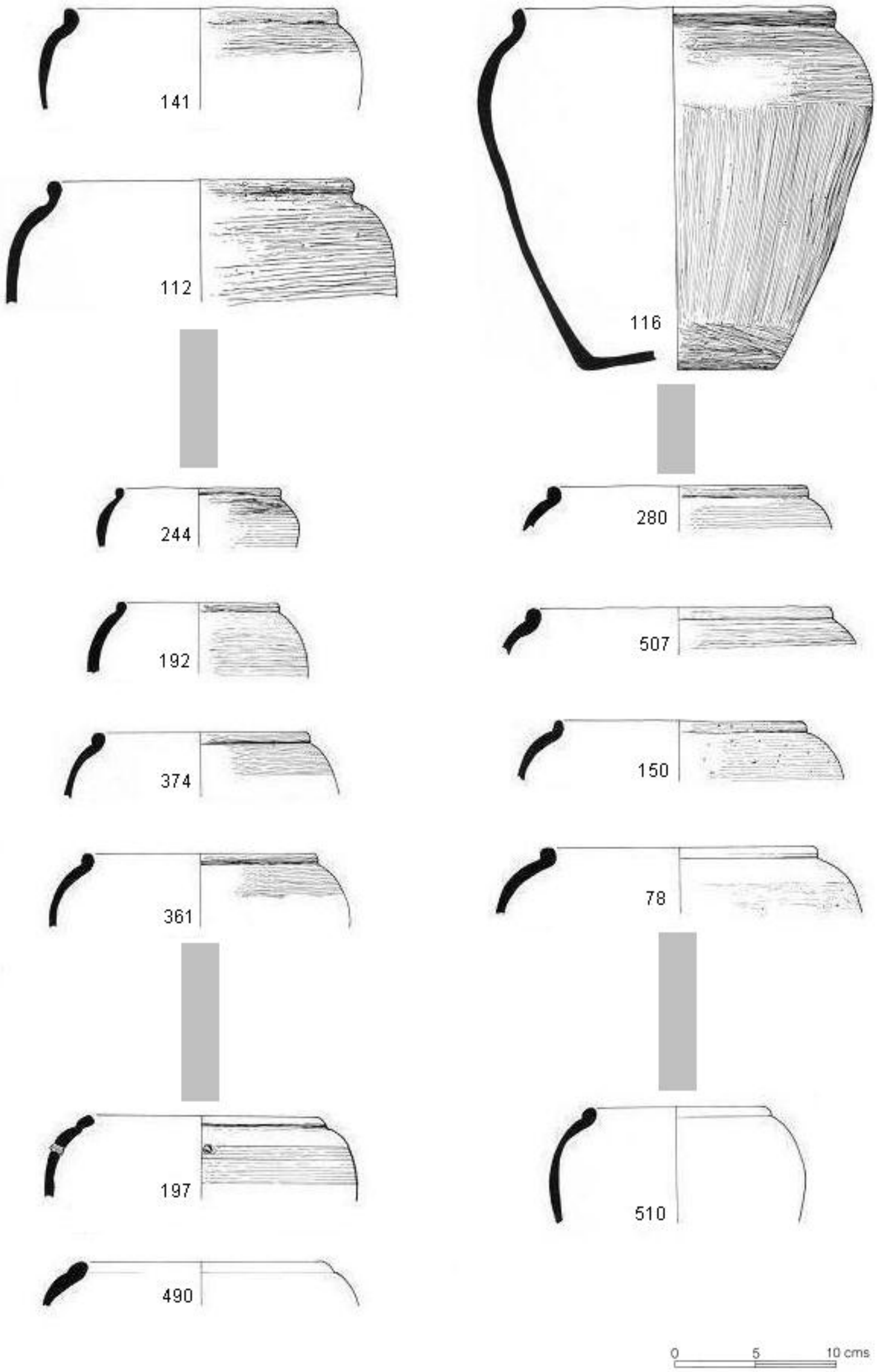


Fig. 6.96 Typological classification of vessels from Nettlebank Copse (Category ⑤-5)

⑤ 《 Plain 》 [Rounded] Form 19

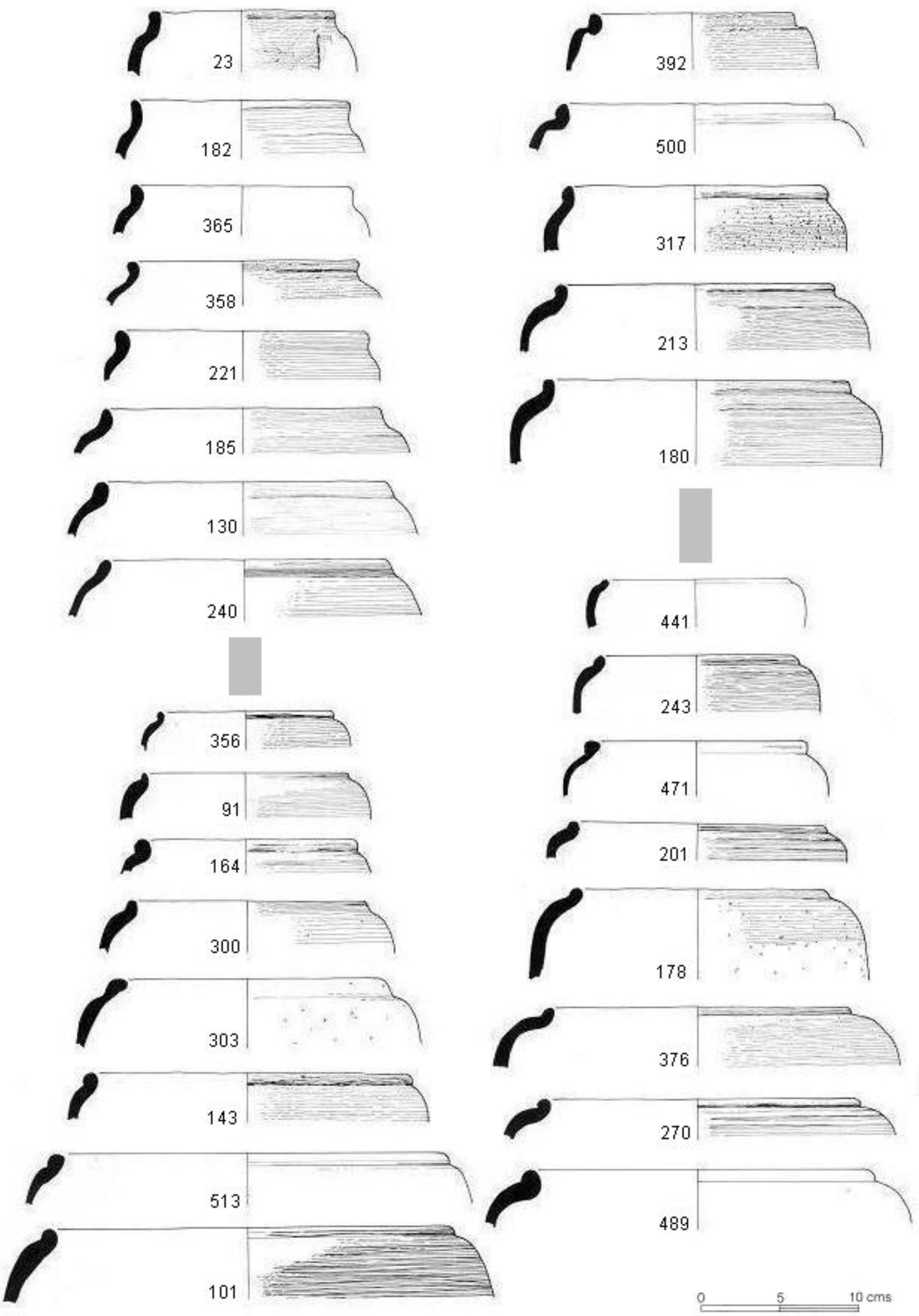


Fig. 6.97 Typological classification of vessels from Nettlebank Copse (Category ⑤-6)

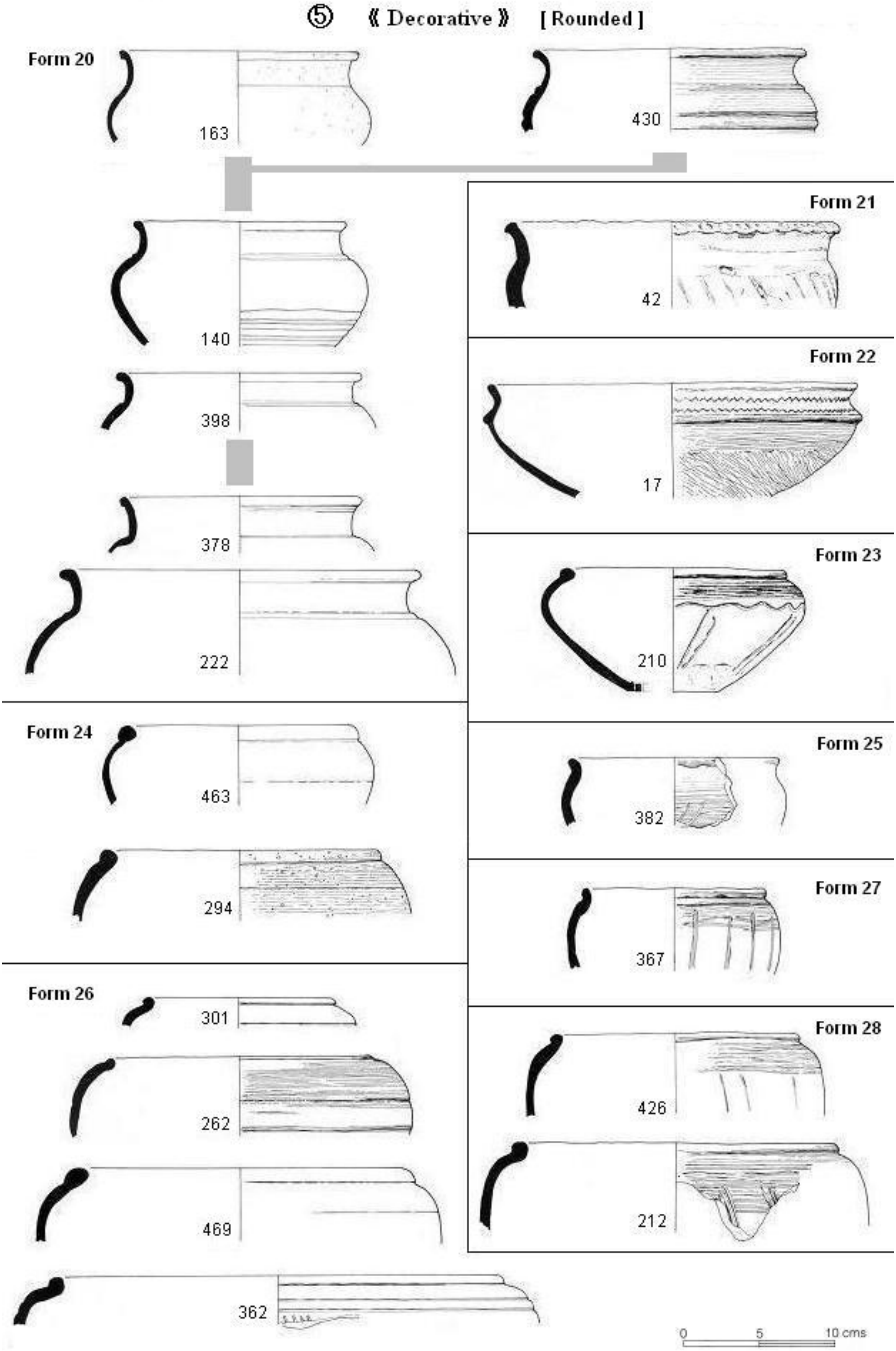


Fig. 6.98 Typological classification of vessels from Nettlebank Copse (Category ⑤-7)

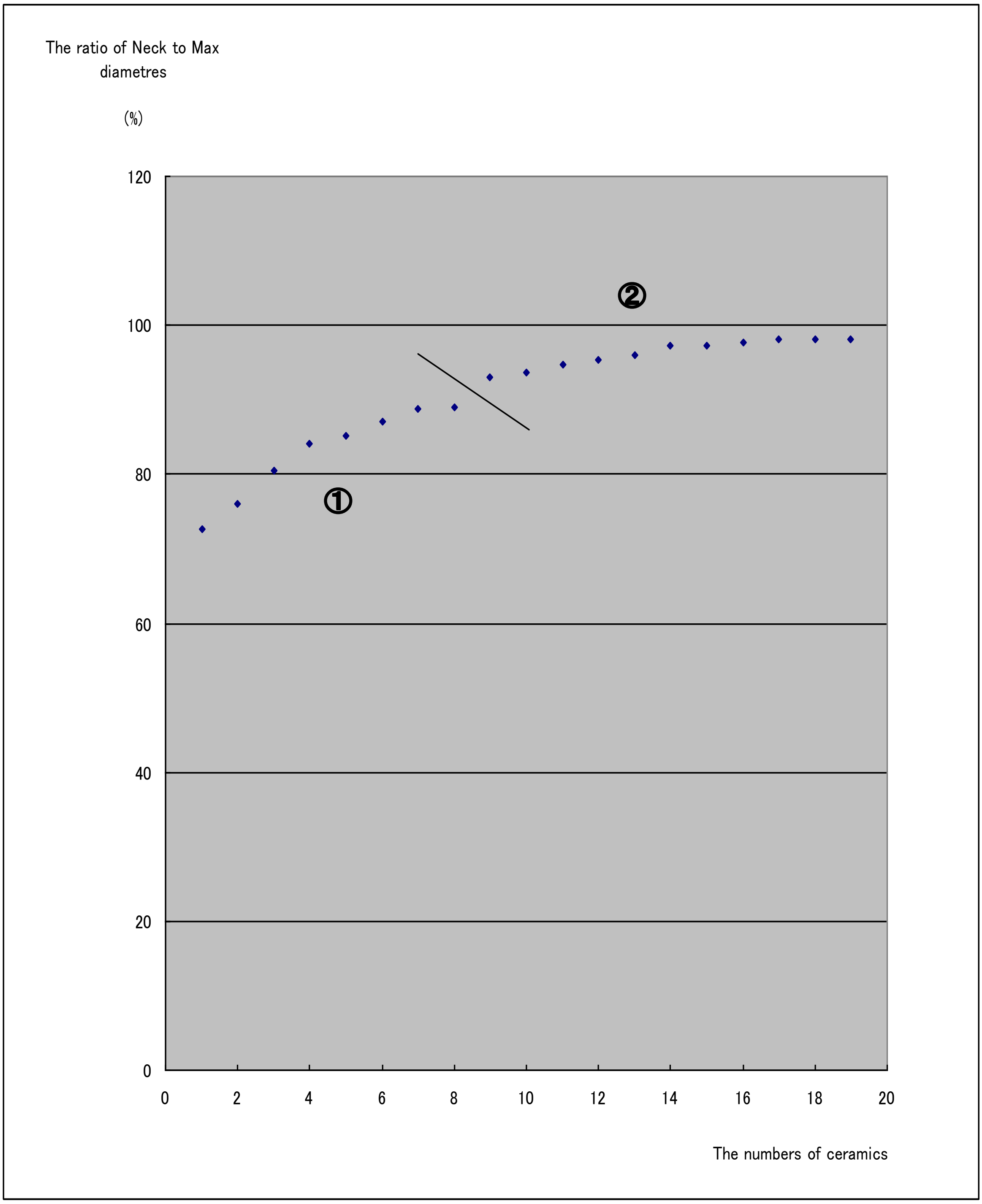


Fig. 6.99 The ratios of neck diameters to max diameters of Iron Age vessels from Bury Hill

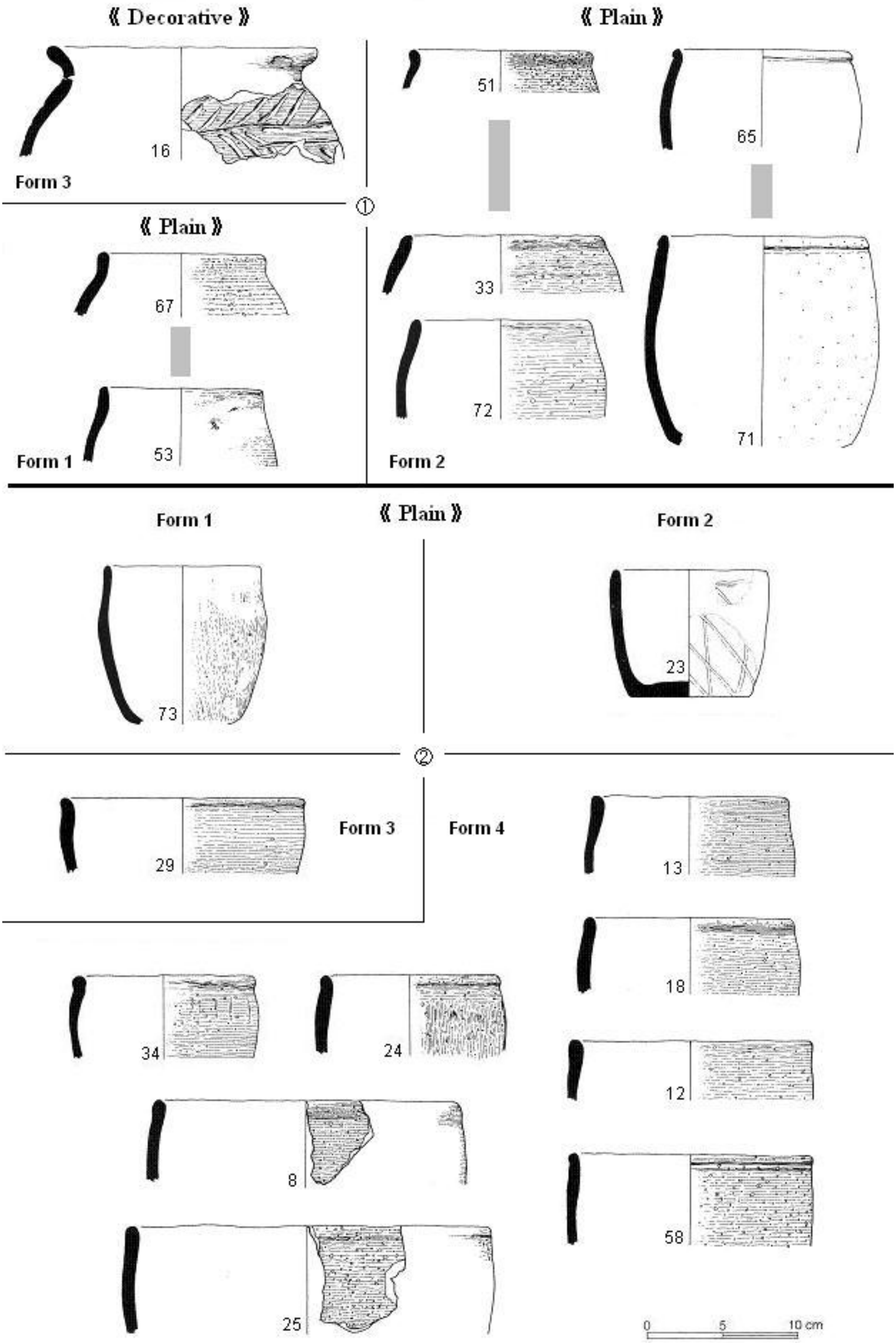


Fig. 6.100 Typological classification of vessels from Bury Hill (Categories ①②)

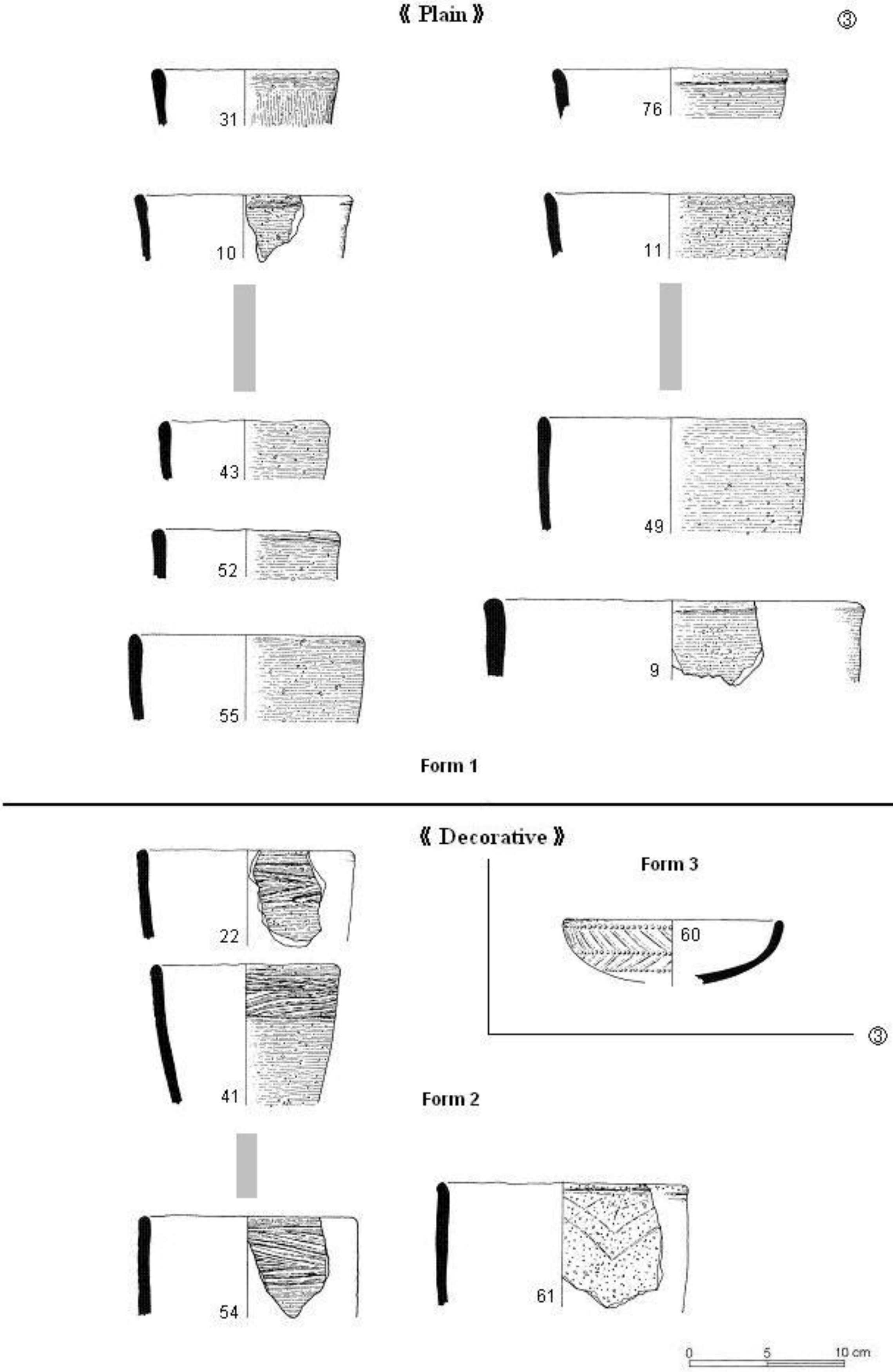


Fig. 6.101 Typological classification of vessels from Bury Hill (Category ③)

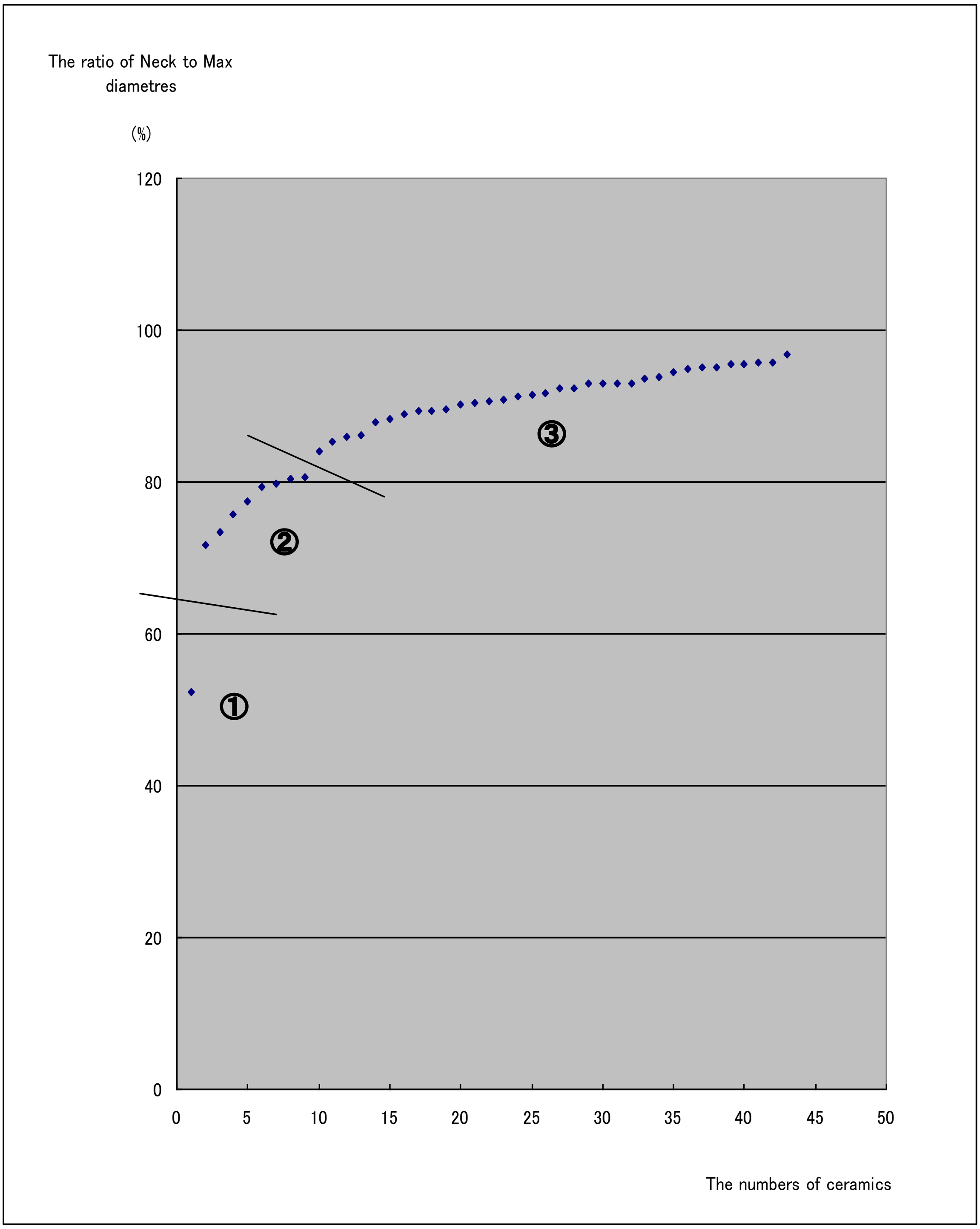


Fig. 6.102 The ratios of neck diameters to max diameters of Iron Age vessels from Balksbury Camp

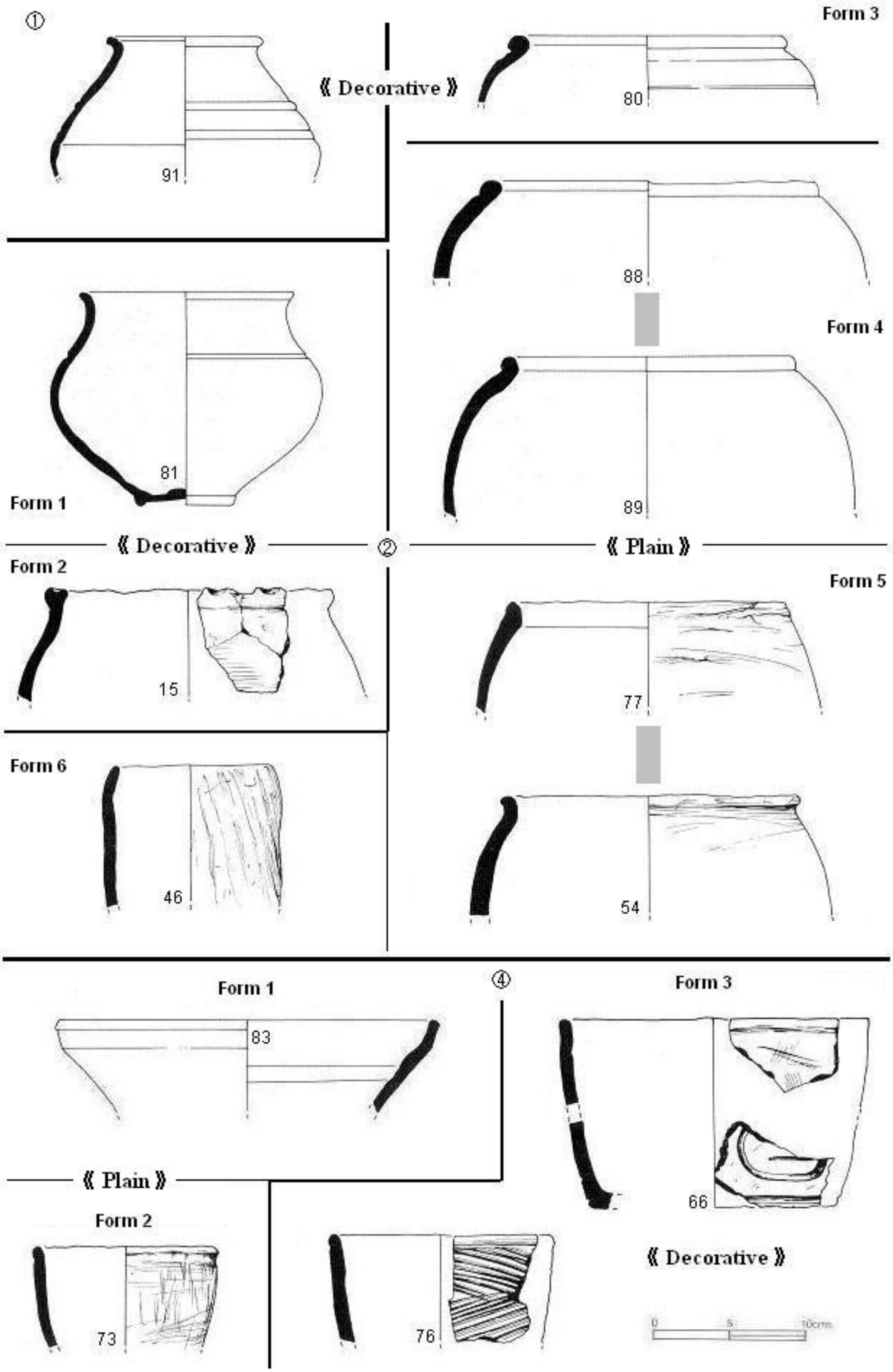


Fig. 6.103 Typological classification of vessels from Balksbury Camp (Categories ①②④)

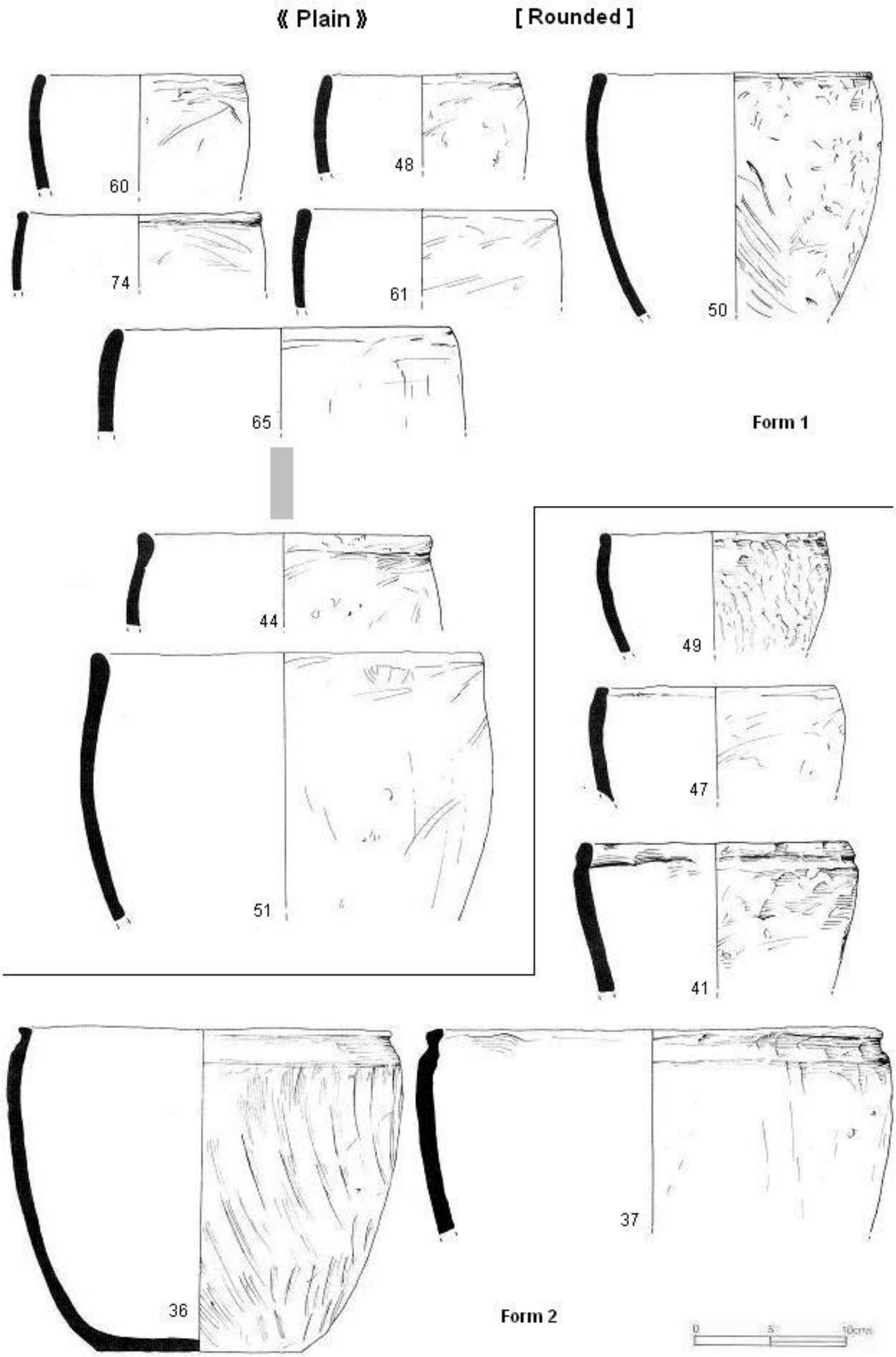


Fig. 6.104 Typological classification of vessels from Balksbury Camp (Category ③-1)

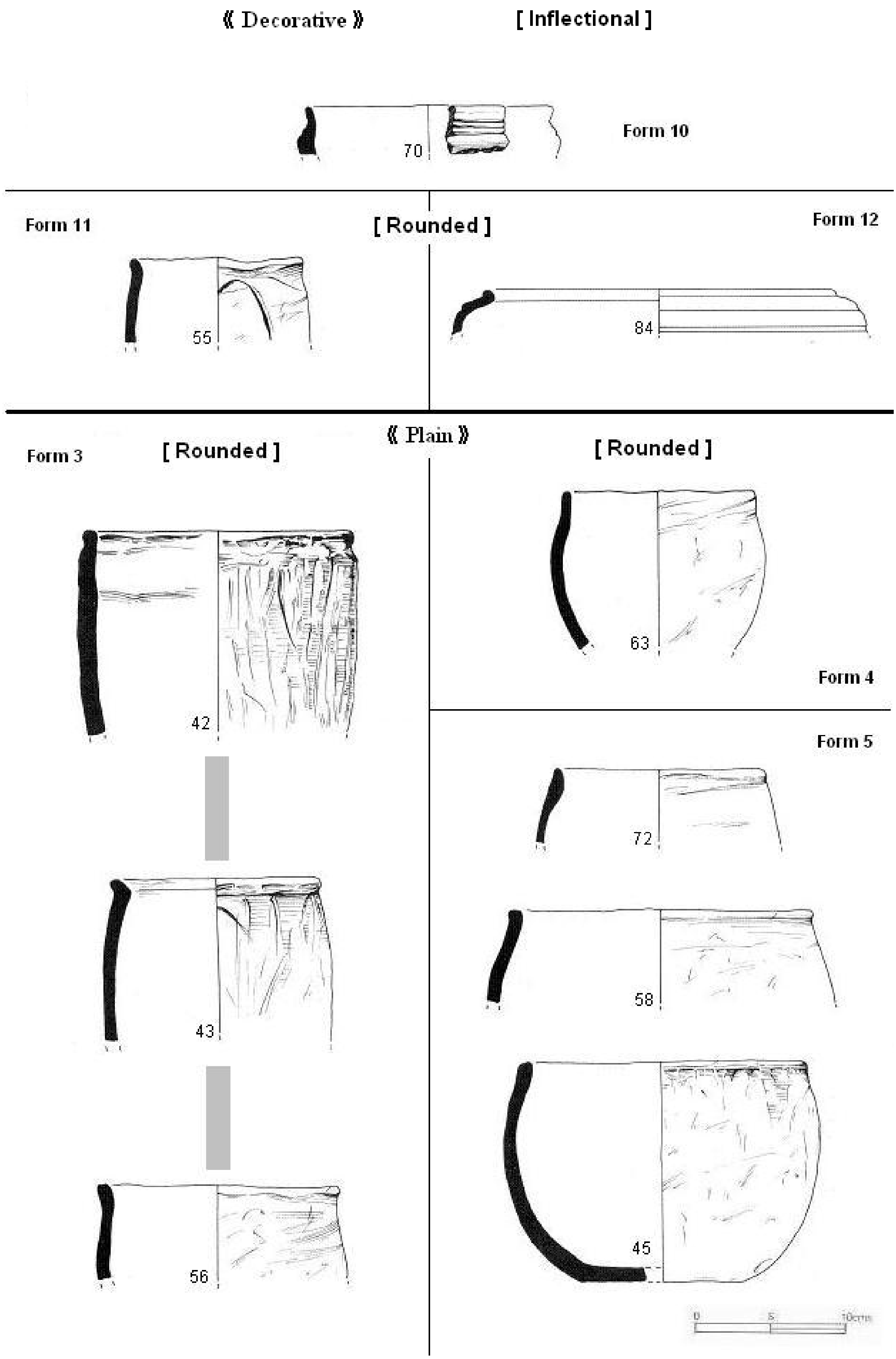


Fig. 6.105 Typological classification of vessels from Balksbury Camp (Category ③-2)

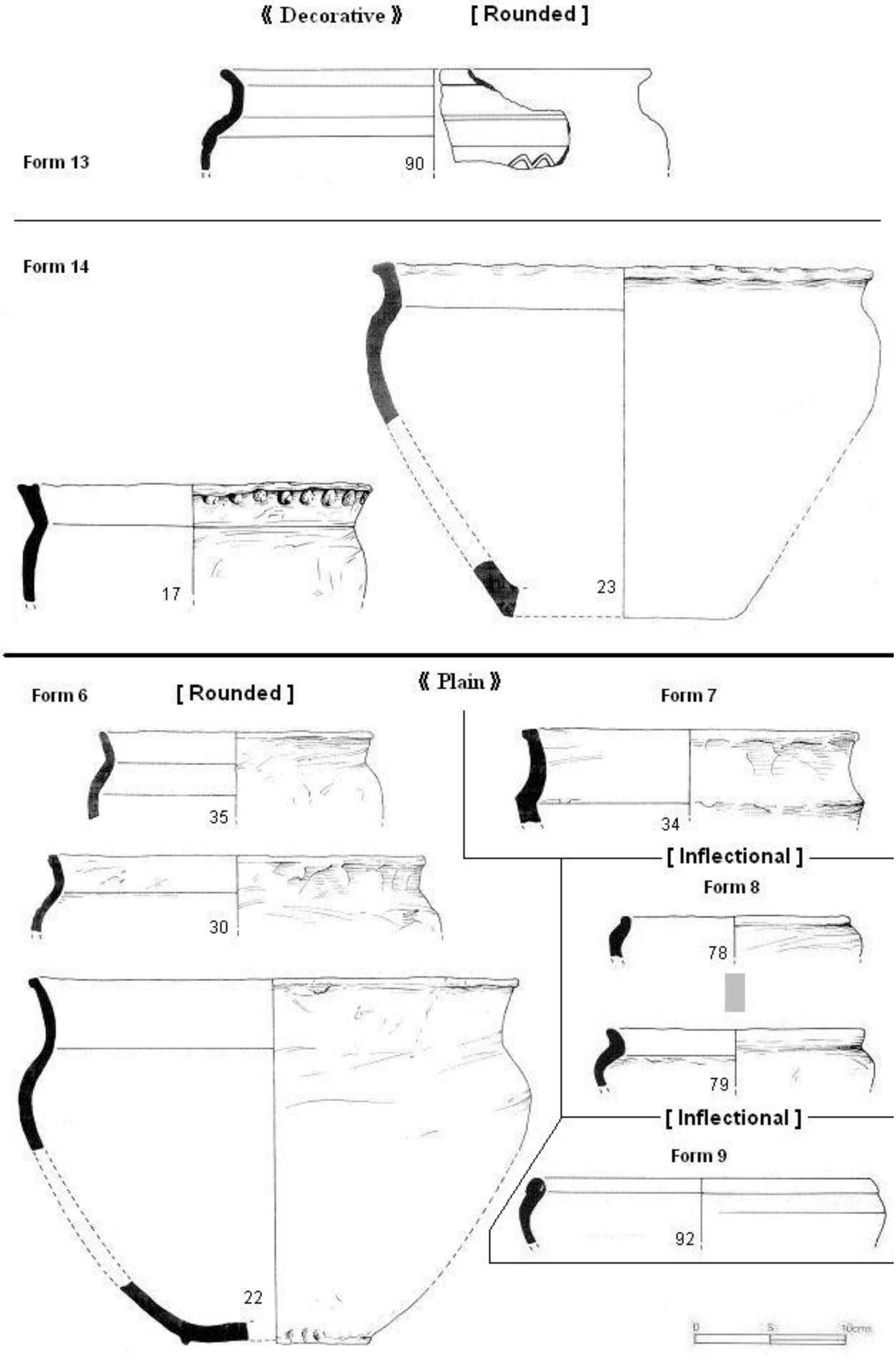


Fig. 6.106 Typological classification of vessels from Balksbury Camp (Category ③-3)

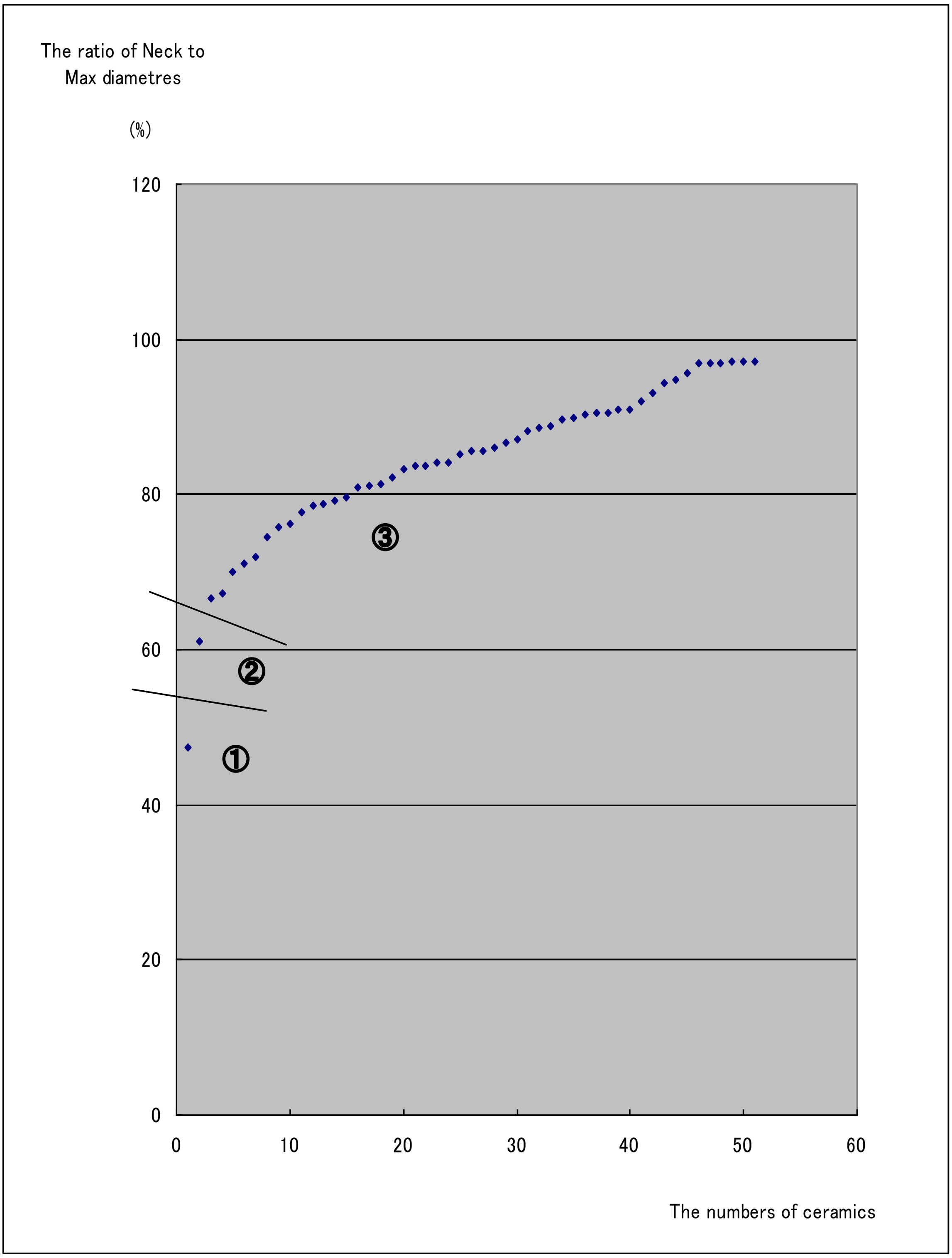


Fig. 6.107 The ratios of neck diameters to max diameters of Iron Age vessels from Old Down Farm

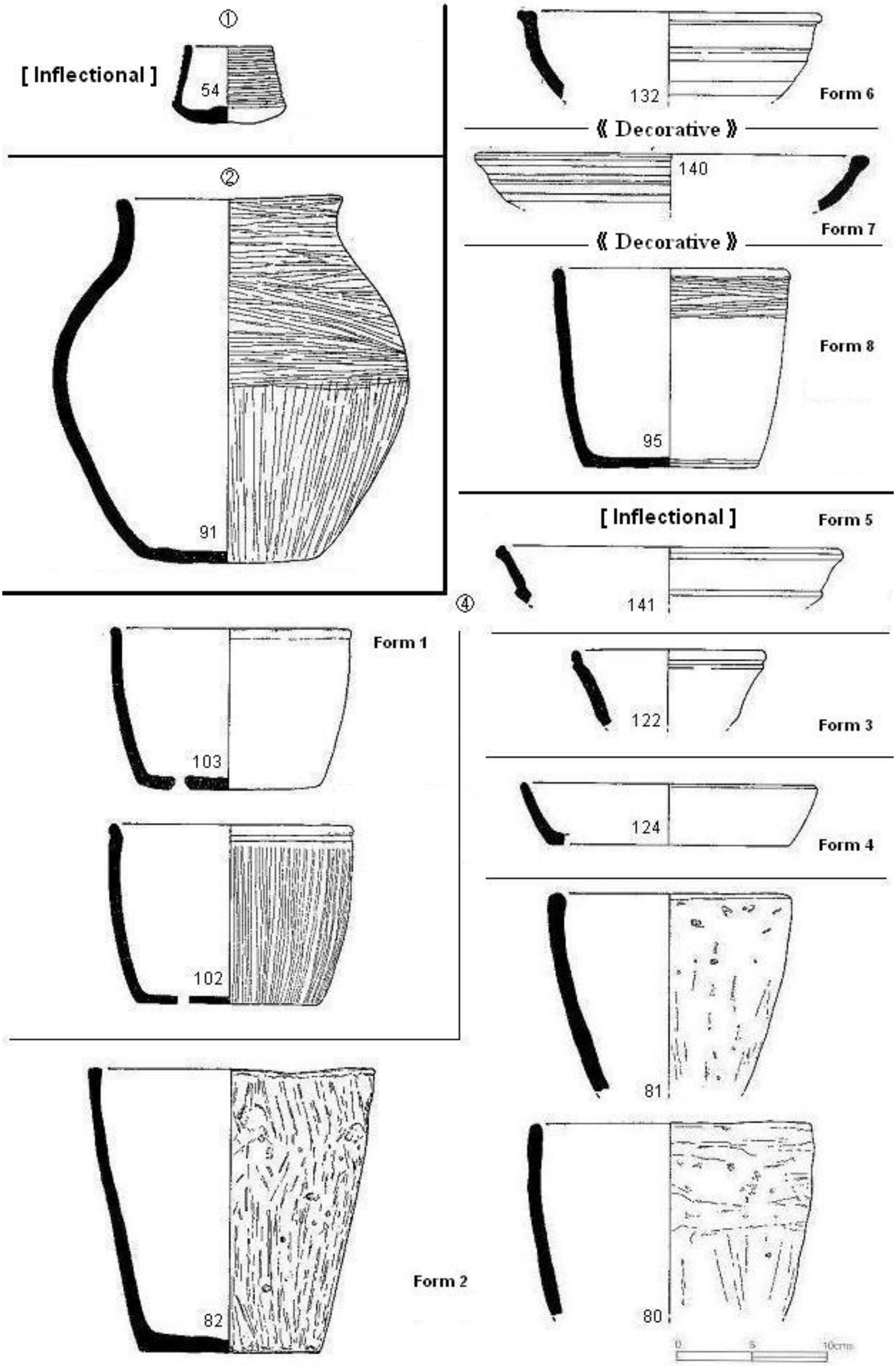


Fig. 6.108 Typological classification of vessels from Old Down Farm (Categories ①②④)

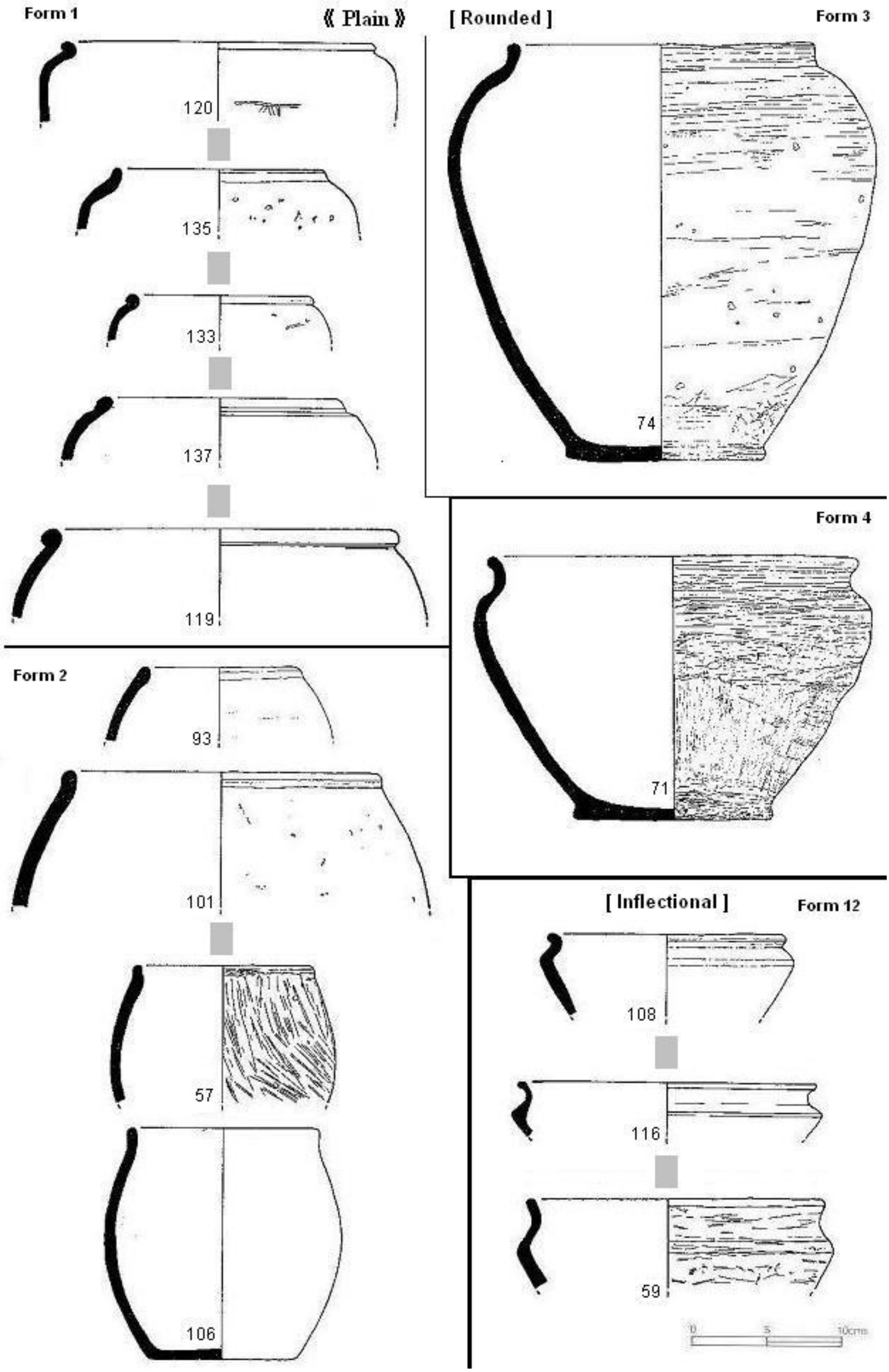


Fig. 6.109 Typological classification of vessels from Old Down Farm (Category ③-1)

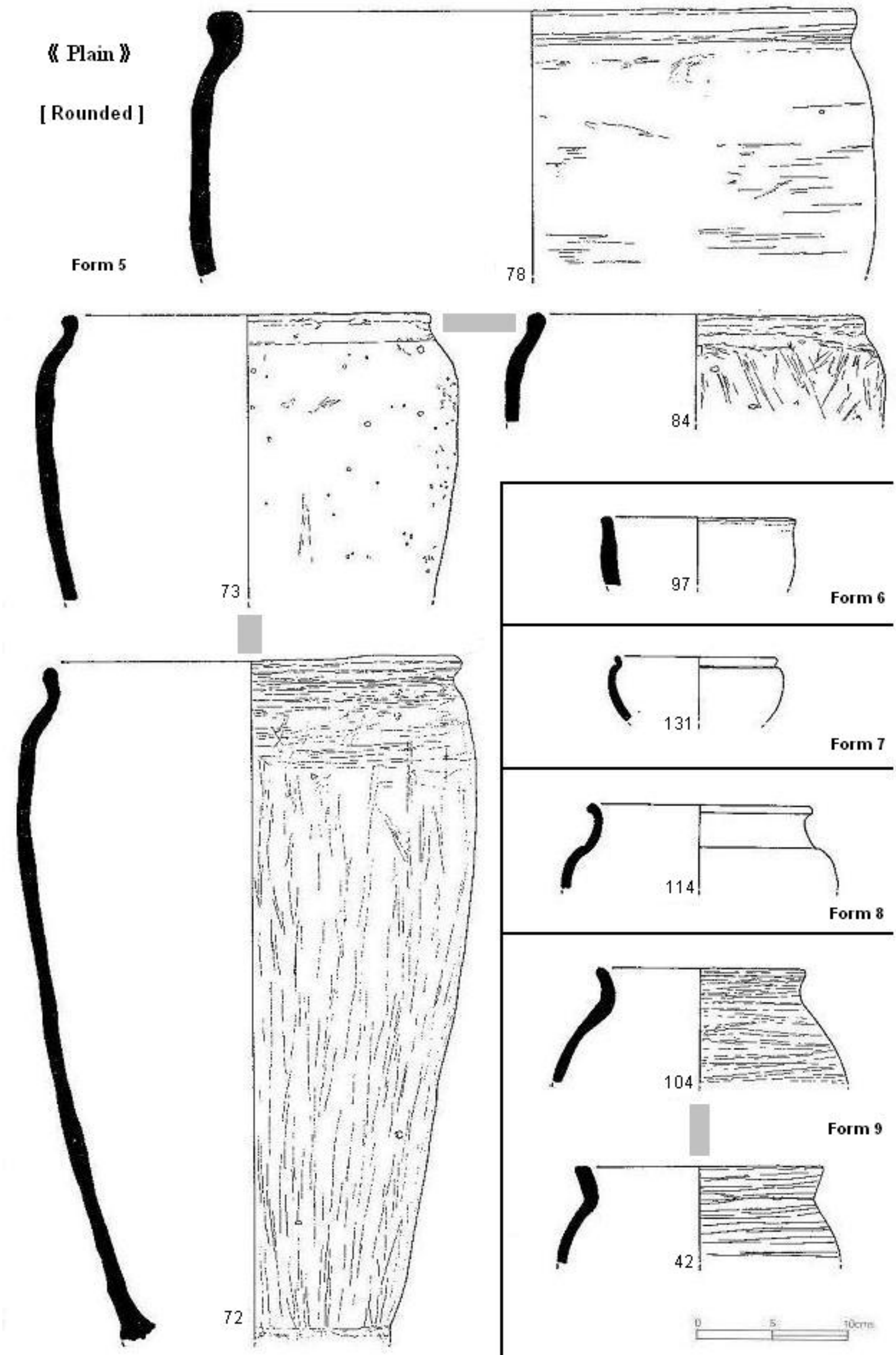


Fig. 6.110 Typological classification of vessels from Old Down Farm (Category ③-2)

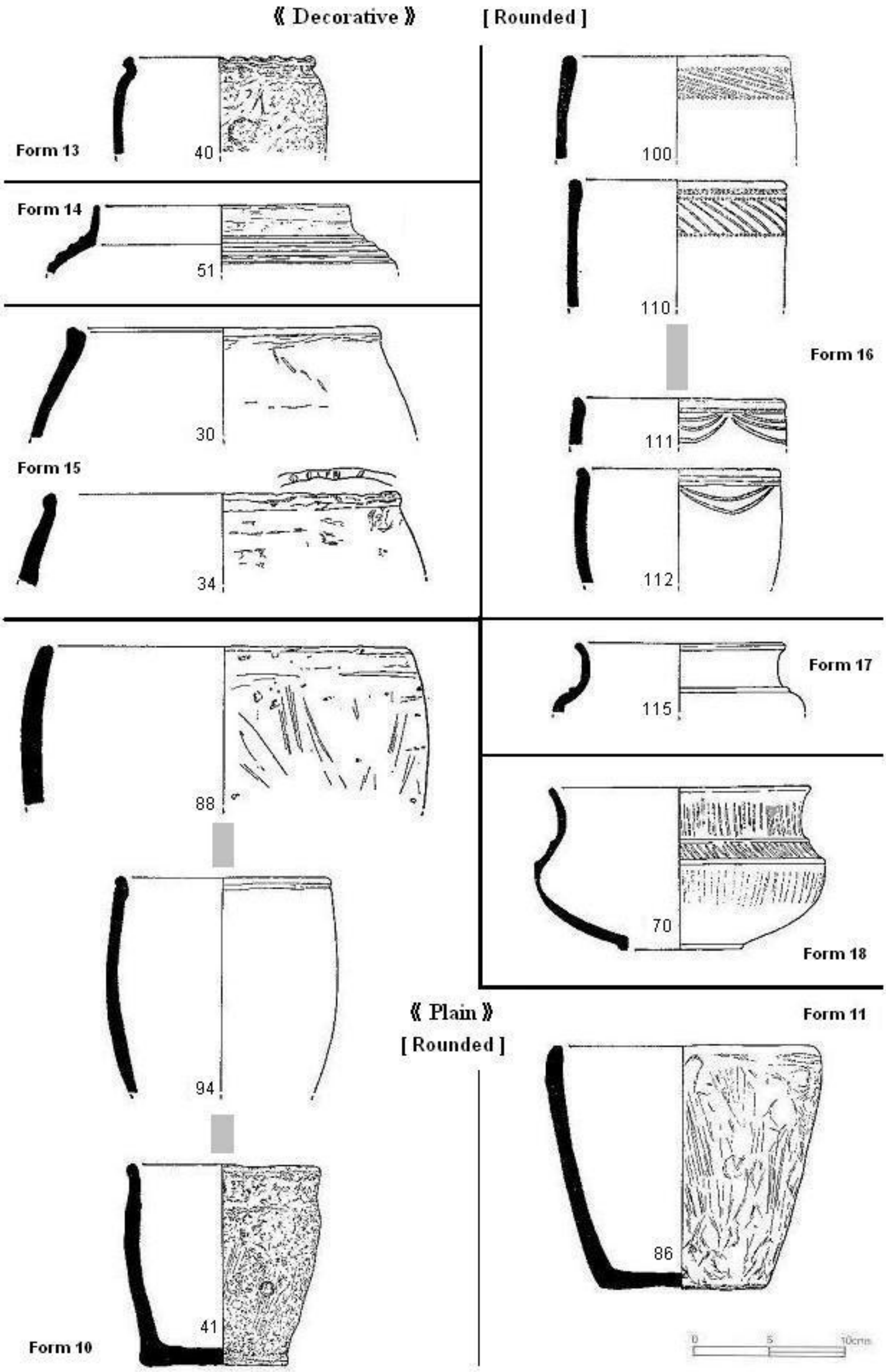


Fig. 6.111 Typological classification of vessels from Old Down Farm (Category ③-3)

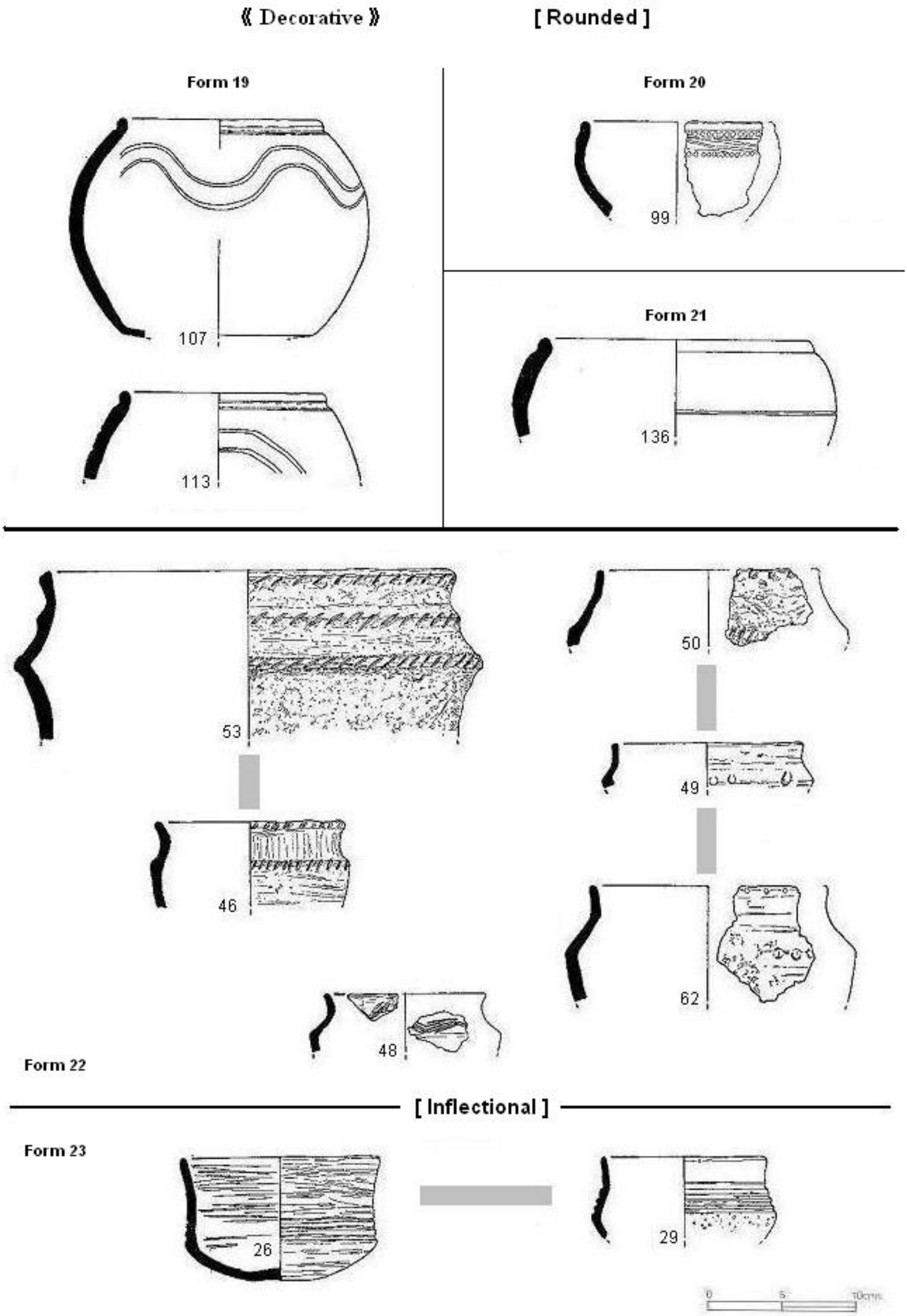


Fig. 6.112　Typological classification of vessels from Old Down Farm (Category ③-4)

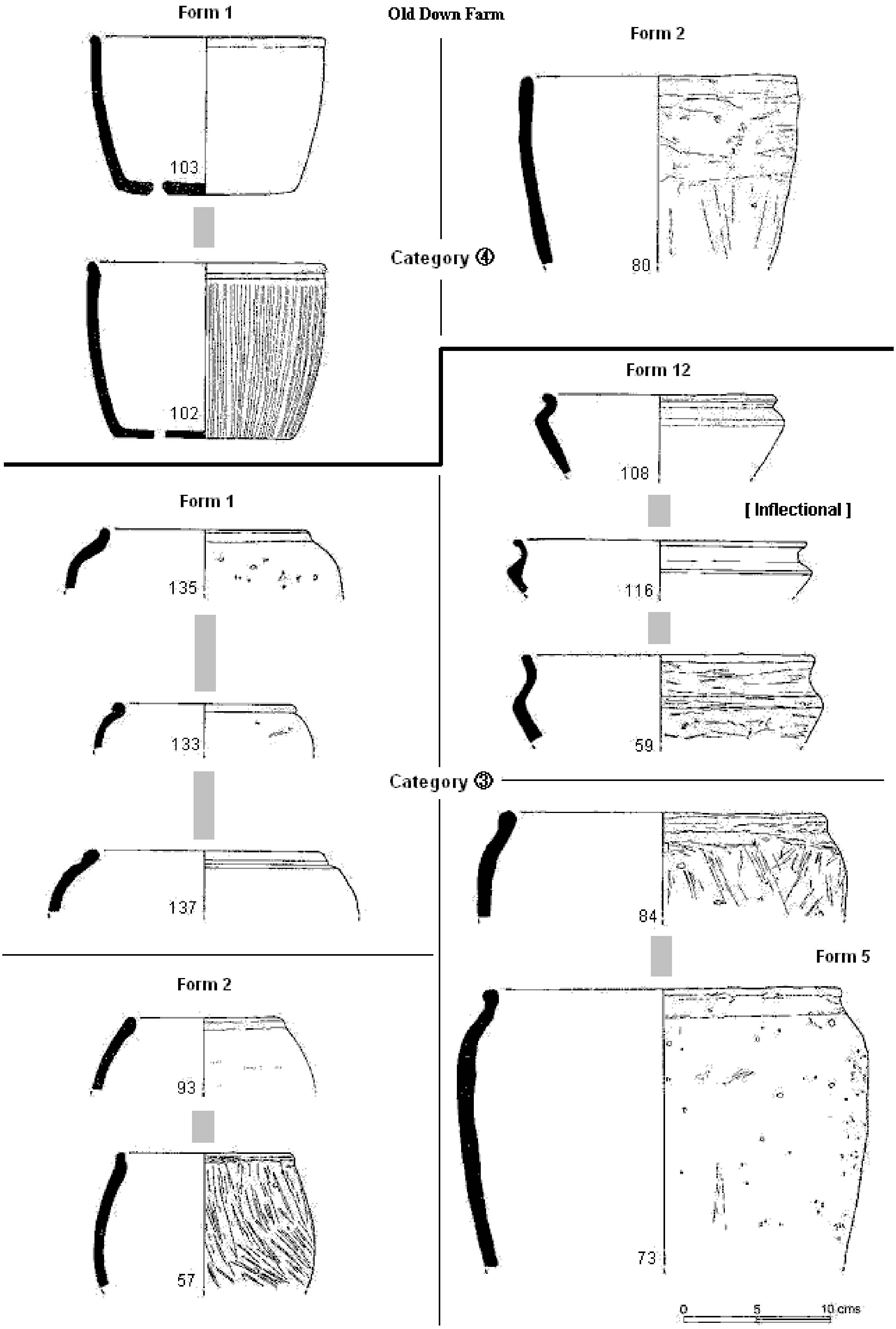


Fig. 6.113 Major forms in category ④(above), ③ (below) from Old Down Farm

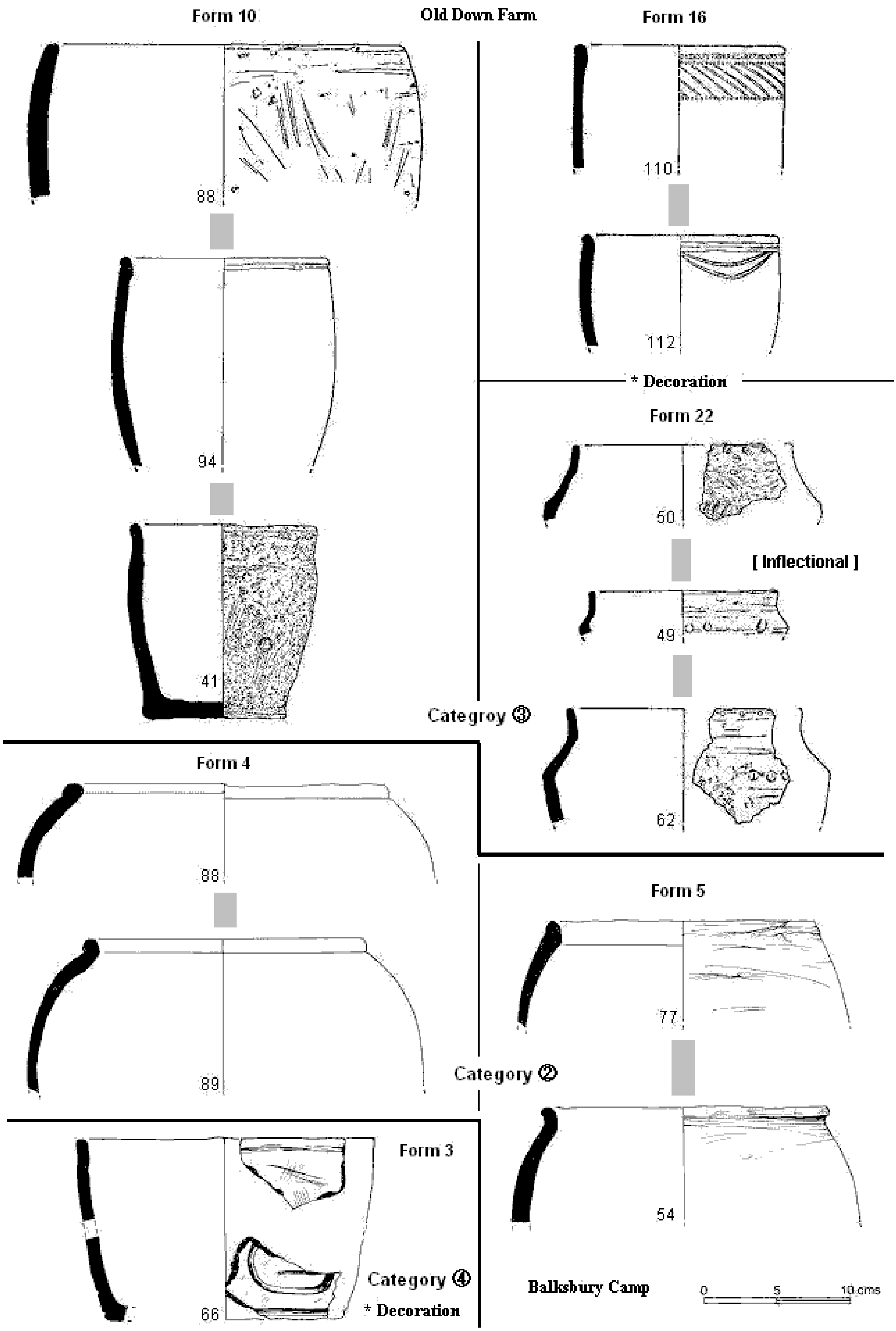


Fig. 6.114 Major forms in category ③ from Old Down Farm (above), in categories ② and ④ from Balksbury Camp (below)

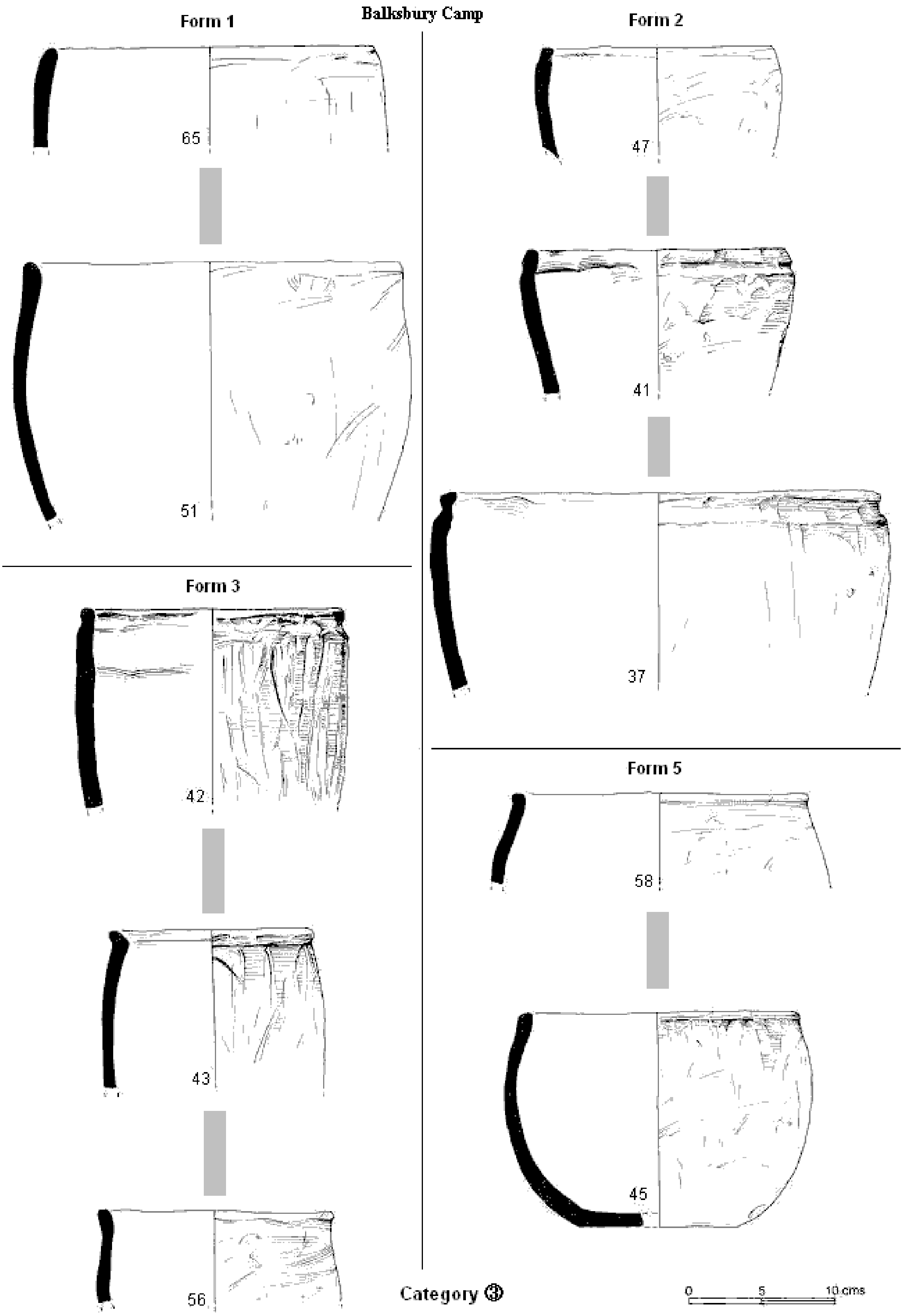


Fig. 6.115 Major forms in category ③ from Balksbury Camp (2)

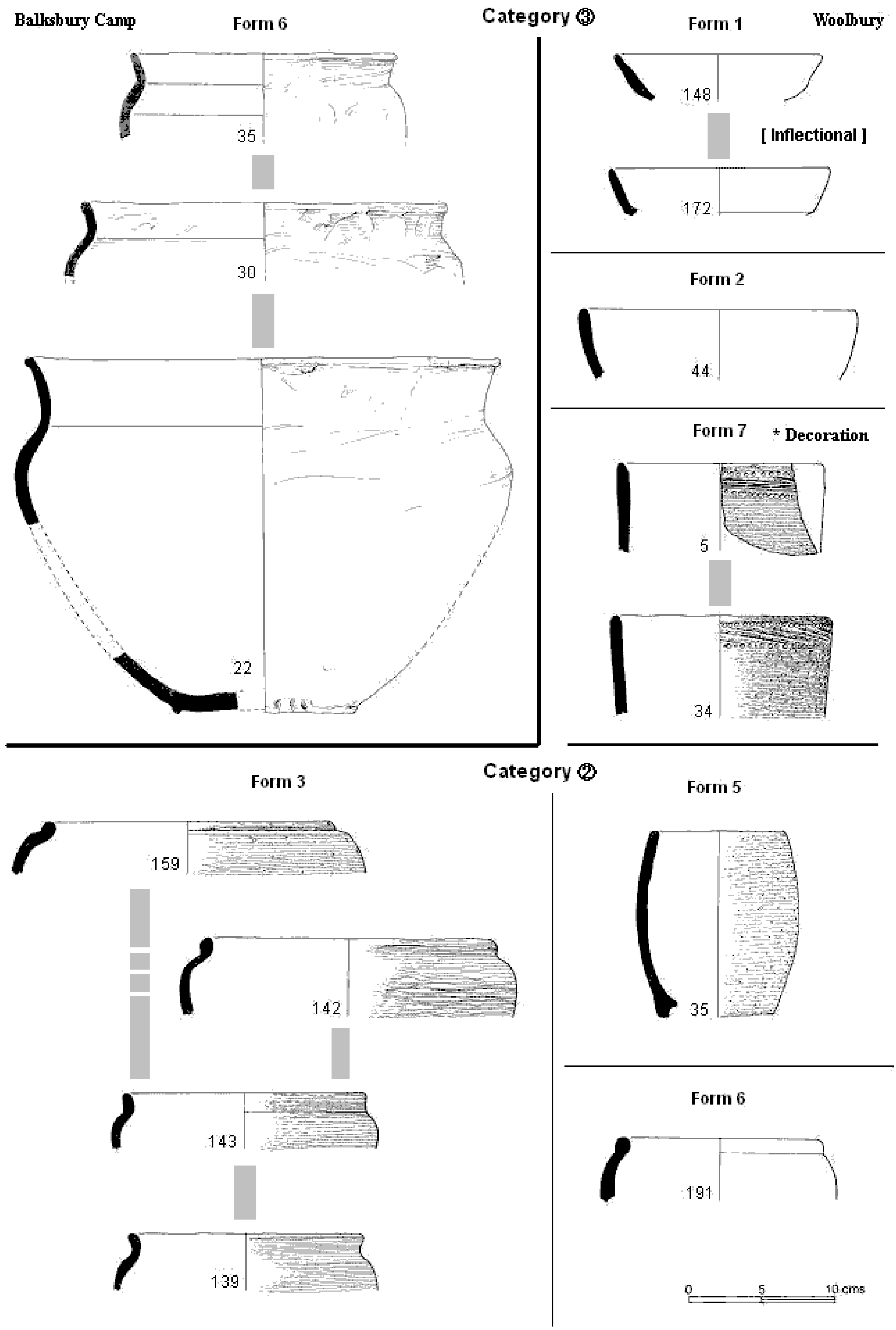


Fig. 6.116 Major forms in category ③ from Balksbury Camp (above), in category ② and ③ from Woolbury (below)

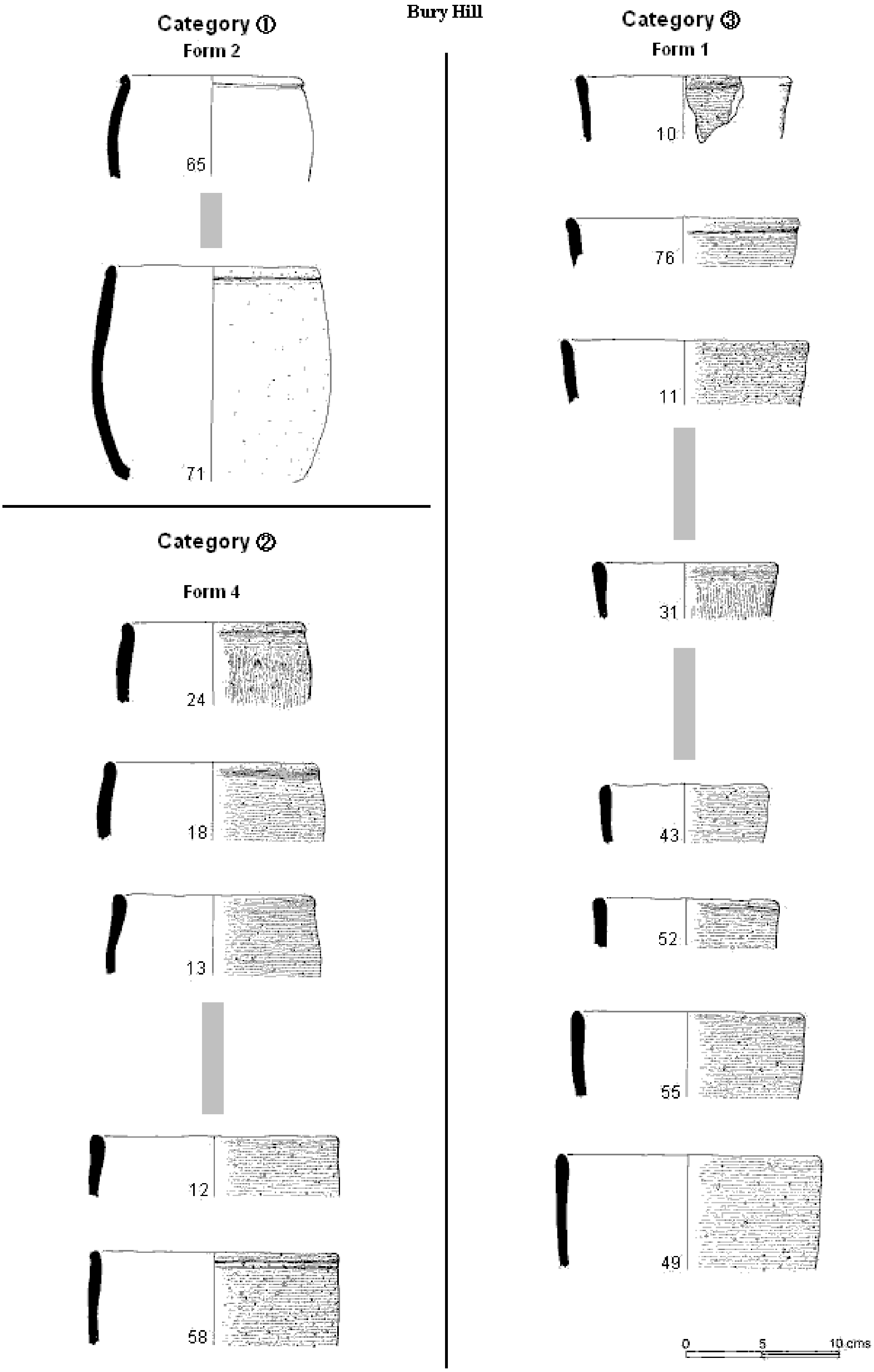


Fig. 6.117 Major forms in categories ①, ② and ③ from Bury Hill

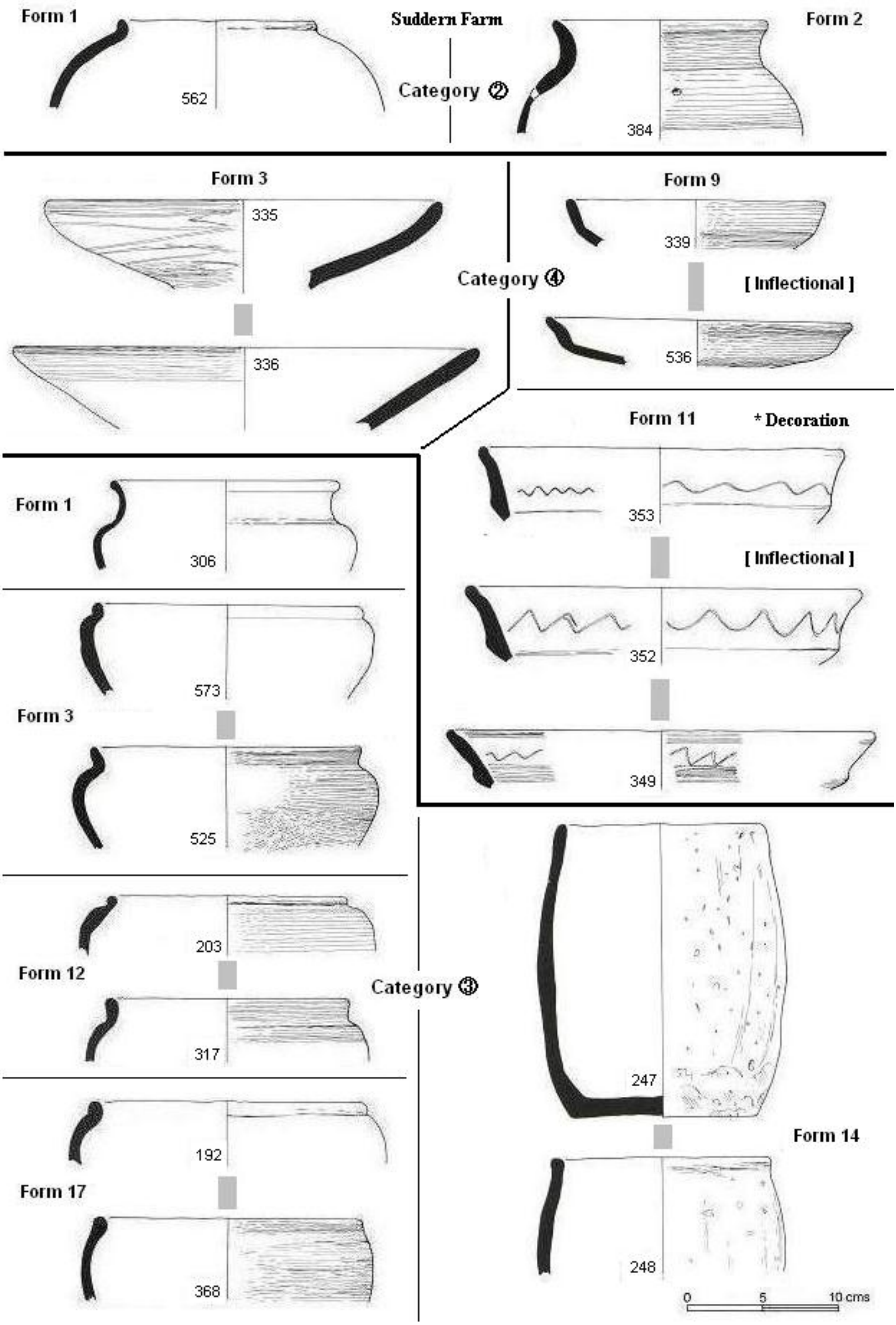


Fig. 6.118 Major forms in categories ②(above), ④(middle), ③(below) from Suddern Farm

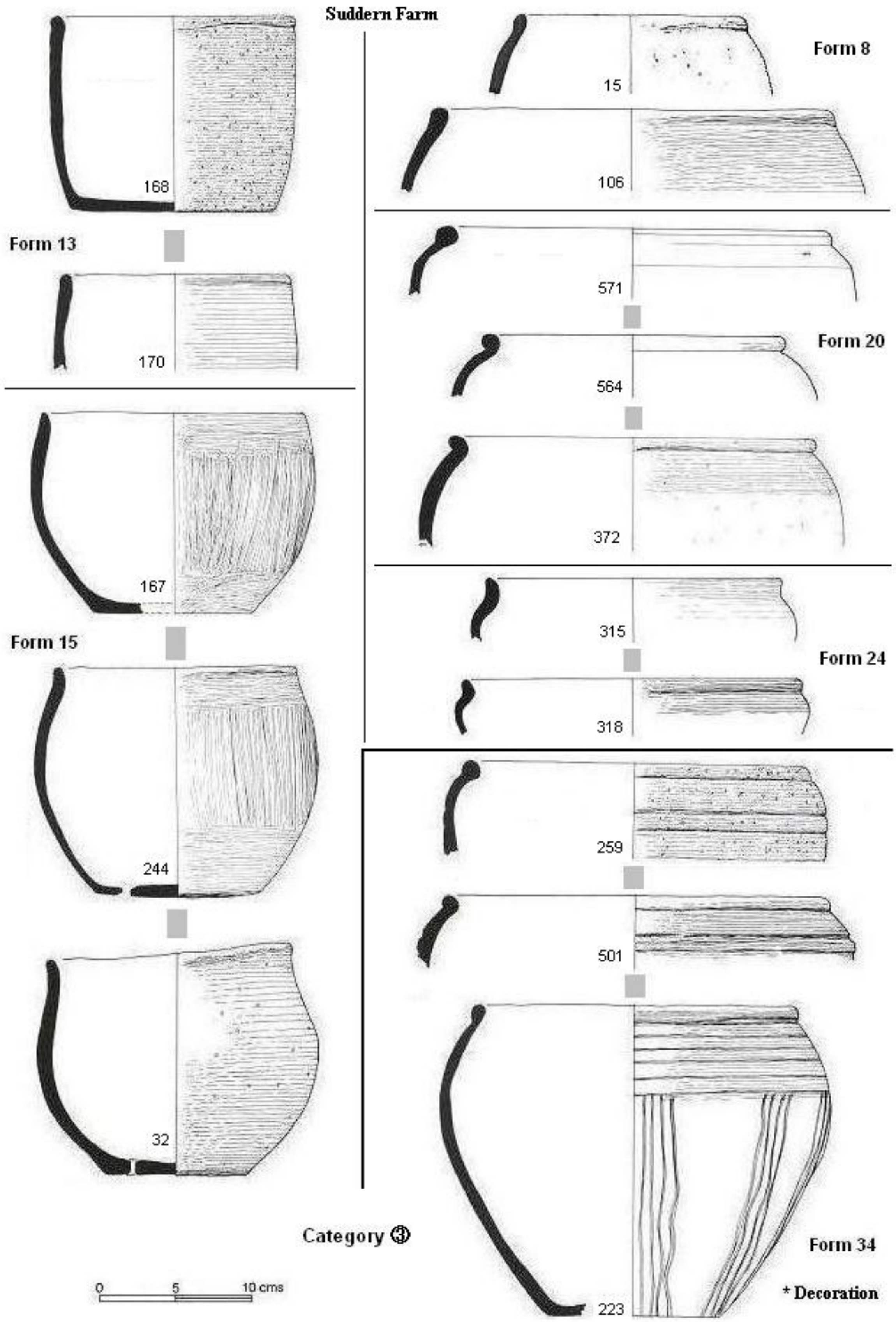


Fig. 6.119 Major forms in category ③ from Suddern Farm

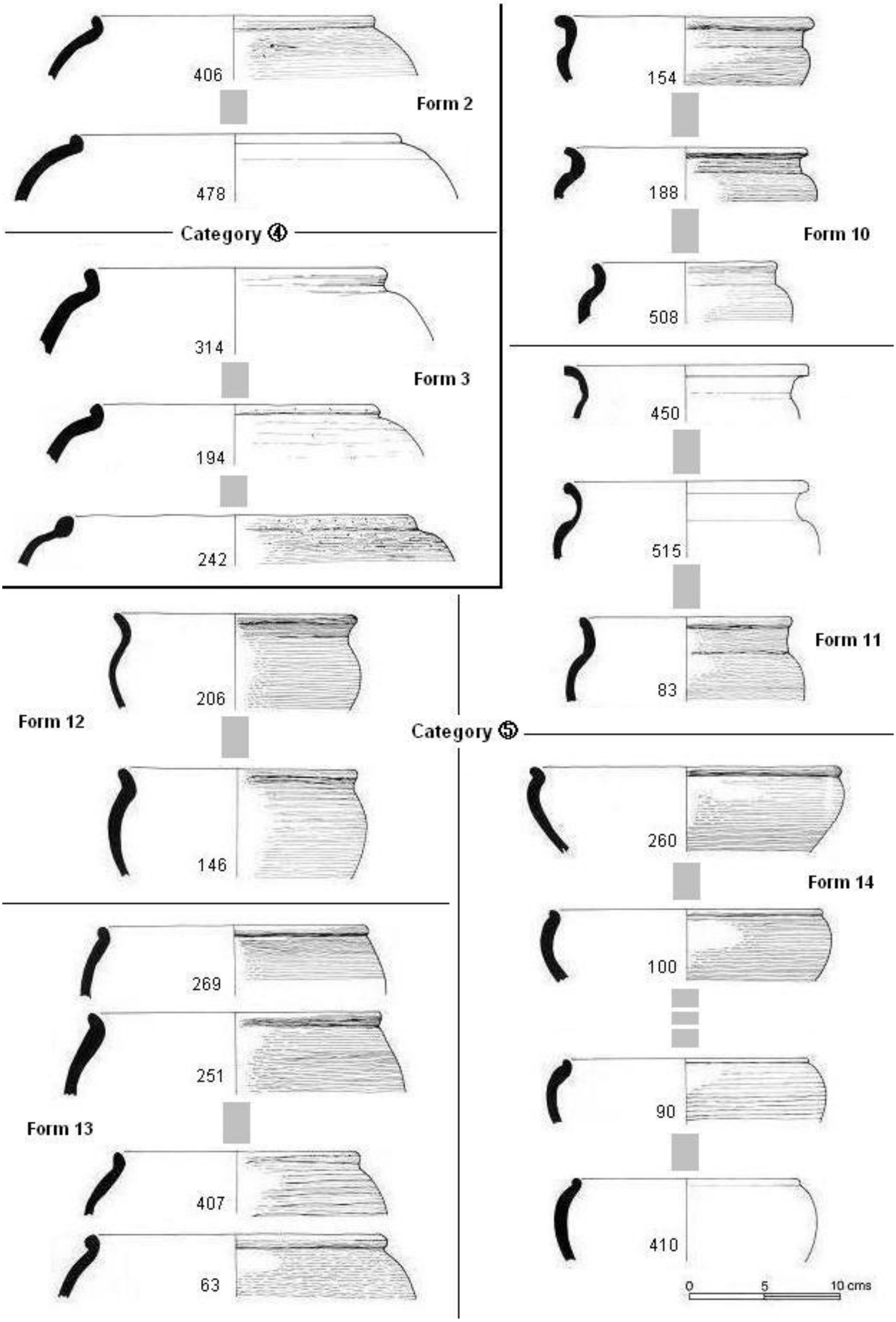


Fig. 6.120 Major forms in categories ④ and ⑤ from Nettlebank Copse

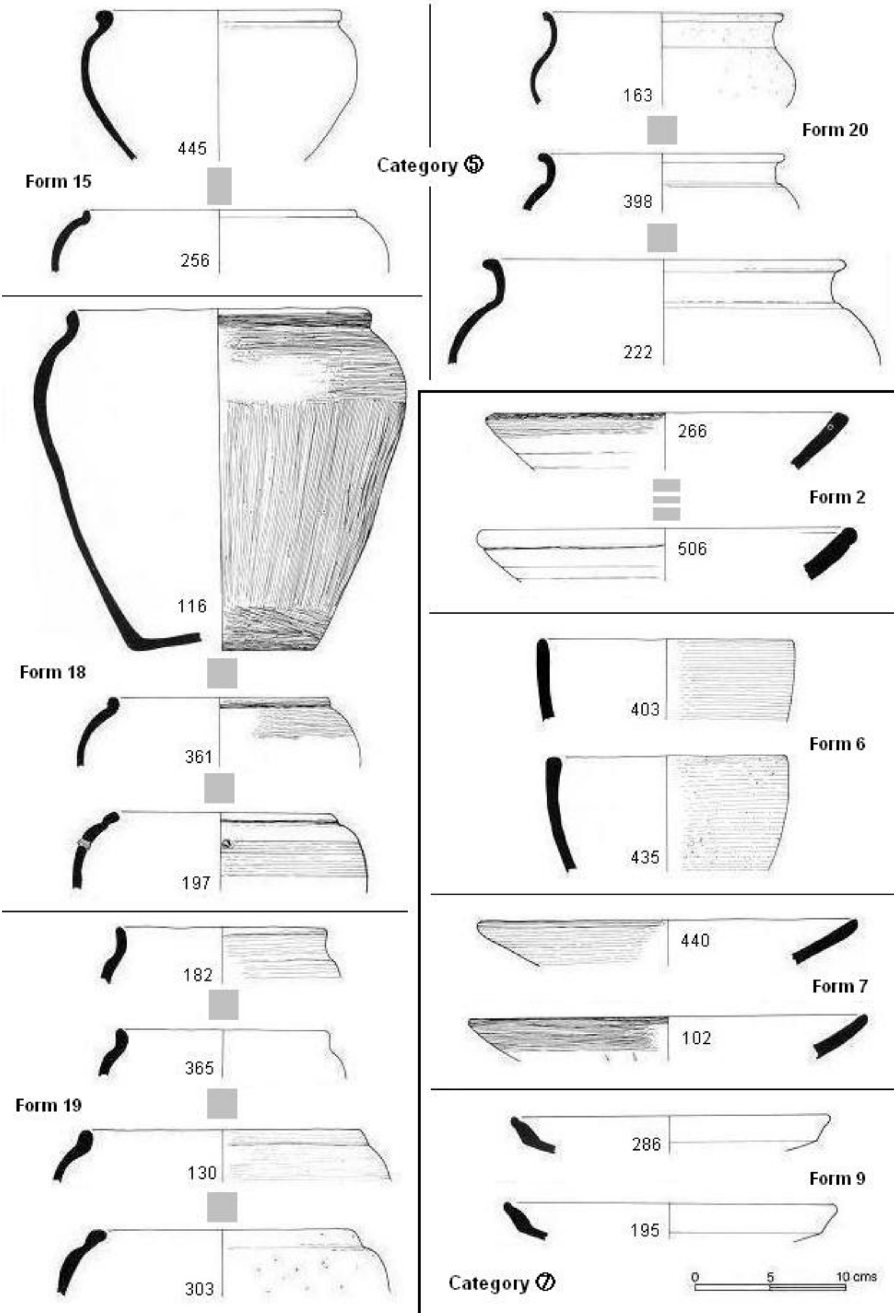


Fig. 6.121 Major forms in categories ⑤ and ⑦ from Nettlebank Copse

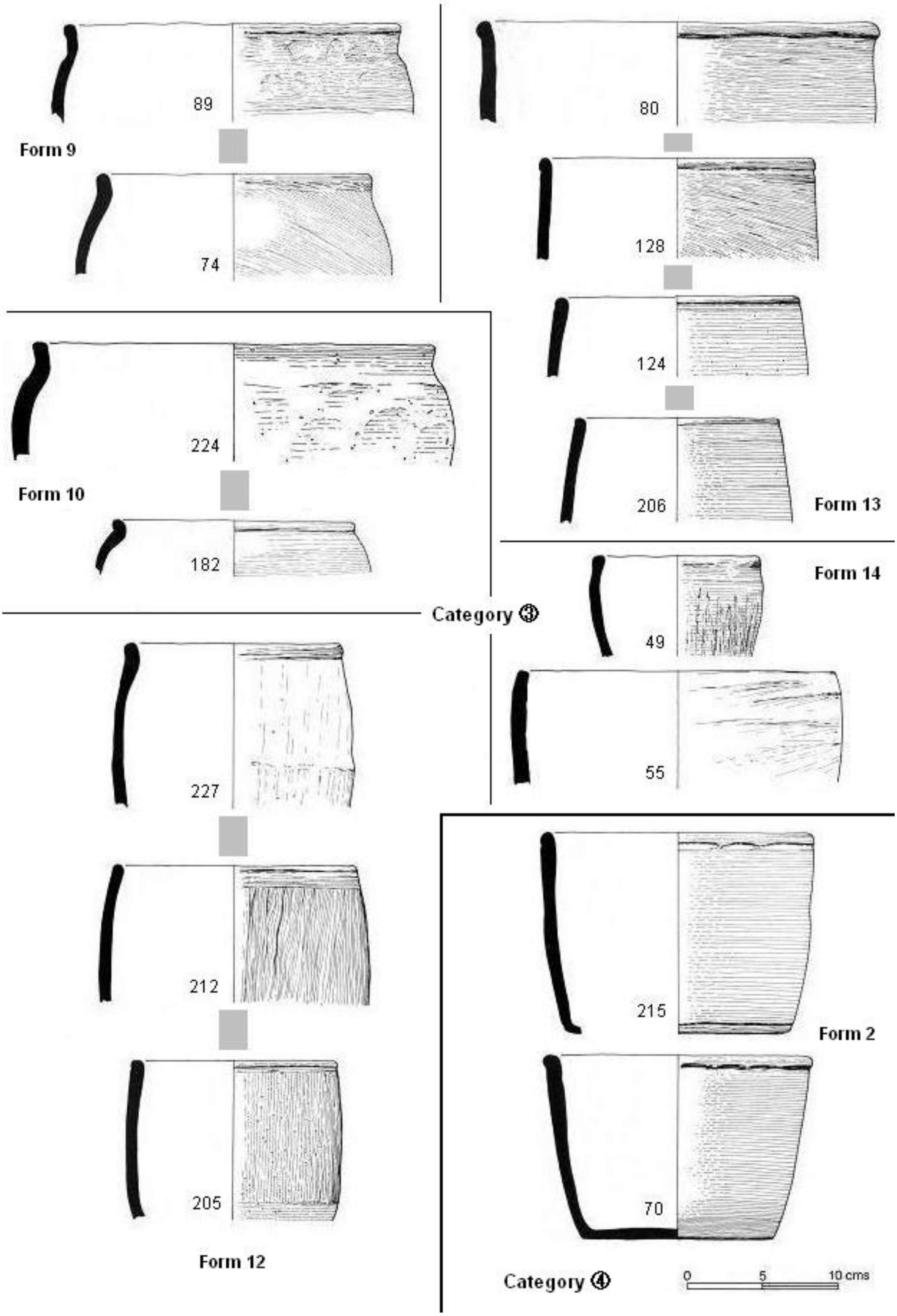


Fig. 6.122 Major forms in categories ③ and ④ from Houghton Down

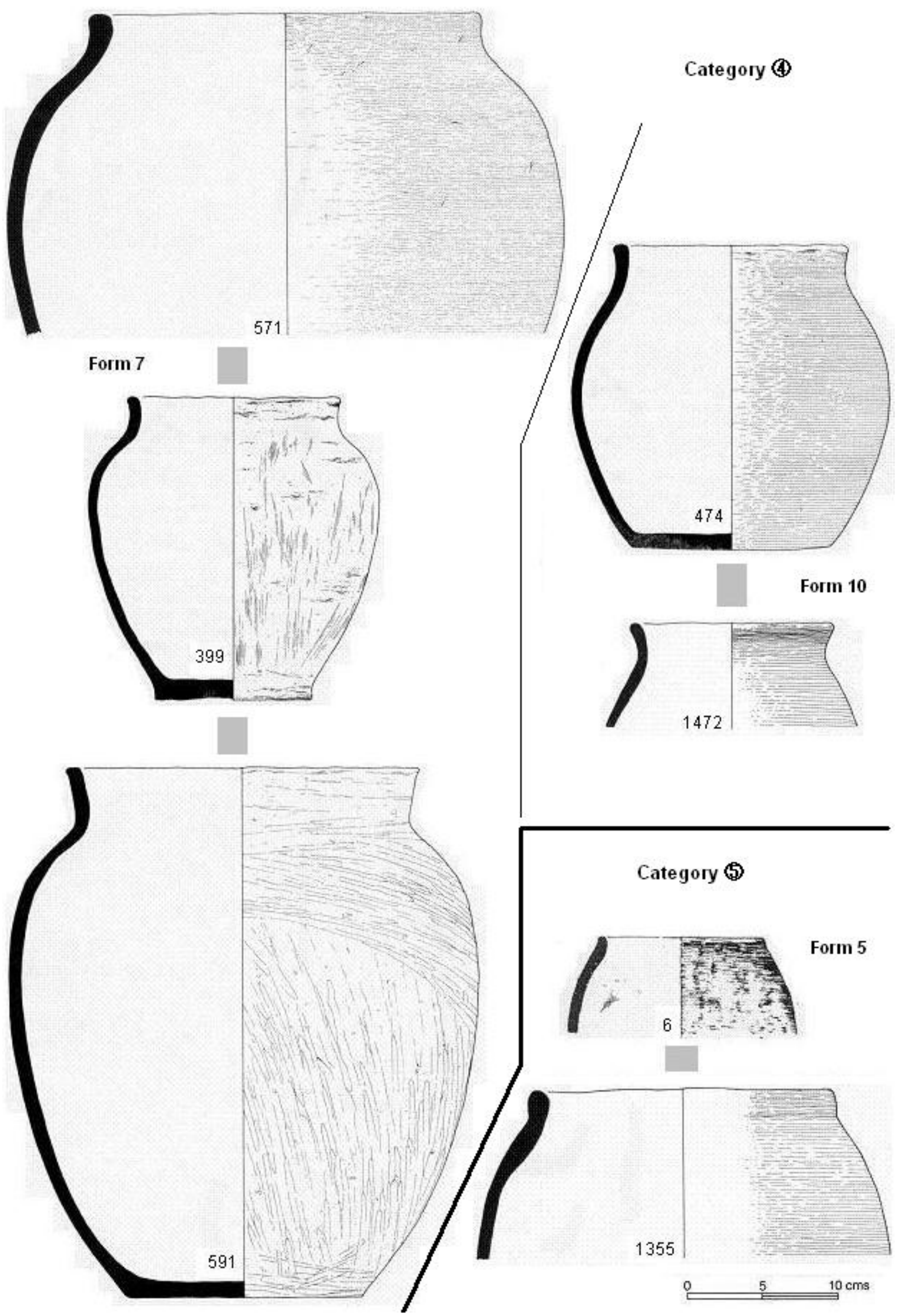


Fig. 6.123 Major forms in categories ④ and ⑤ from Danebury

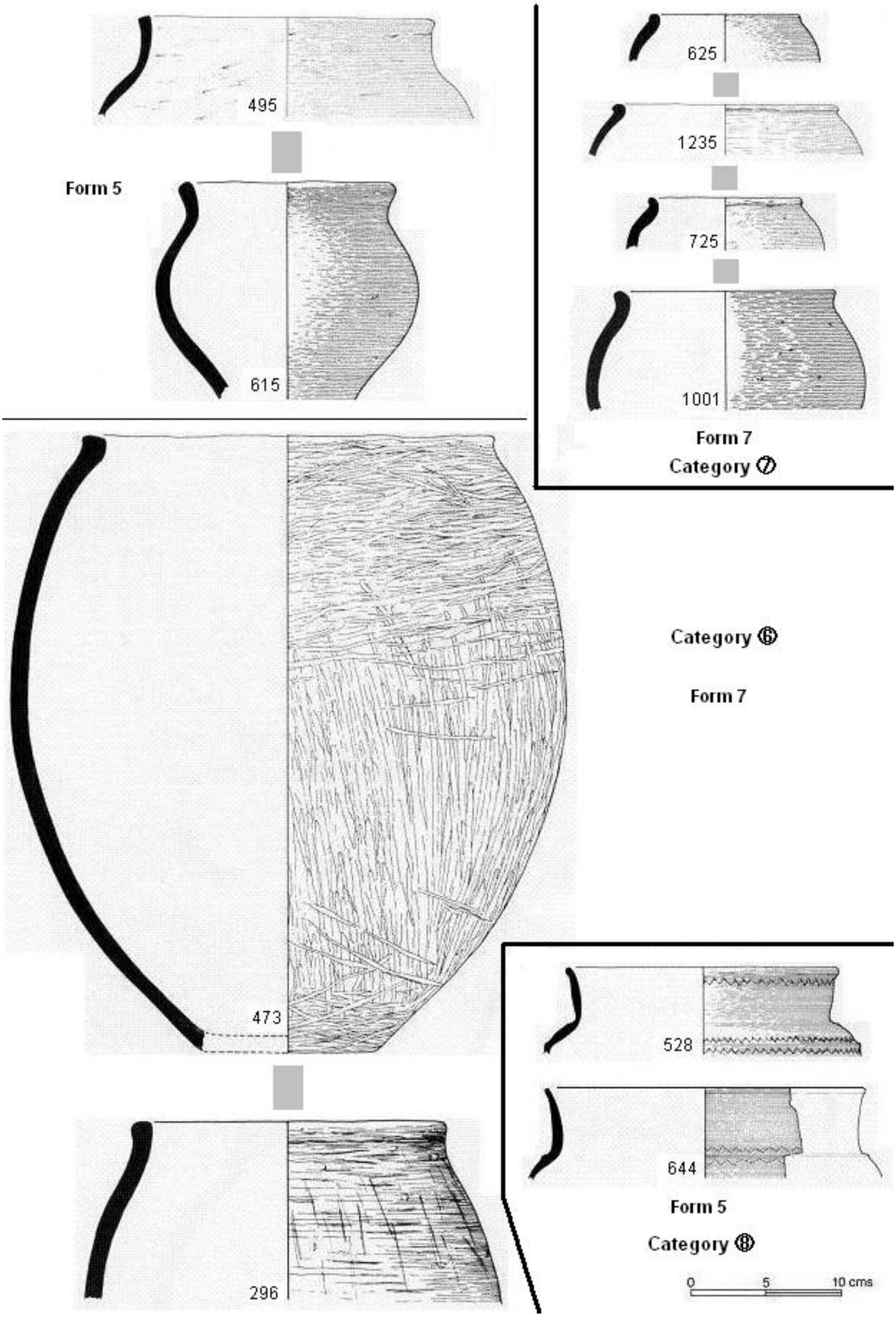


Fig. 6.124 Major forms in categories ⑥, ⑦ and ⑧ from Danebury

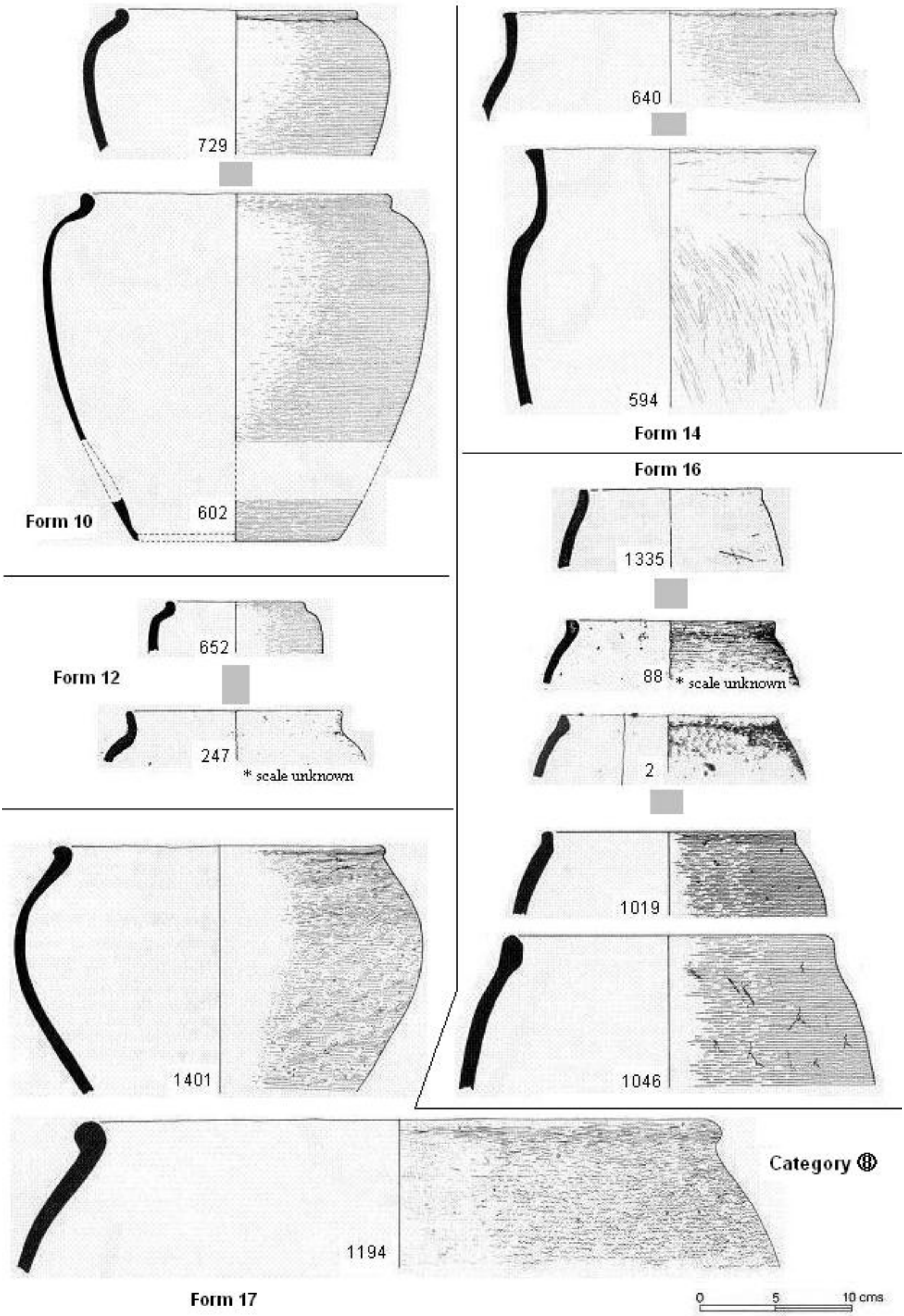


Fig. 6.125 Major forms in category ⑧ from Danebury

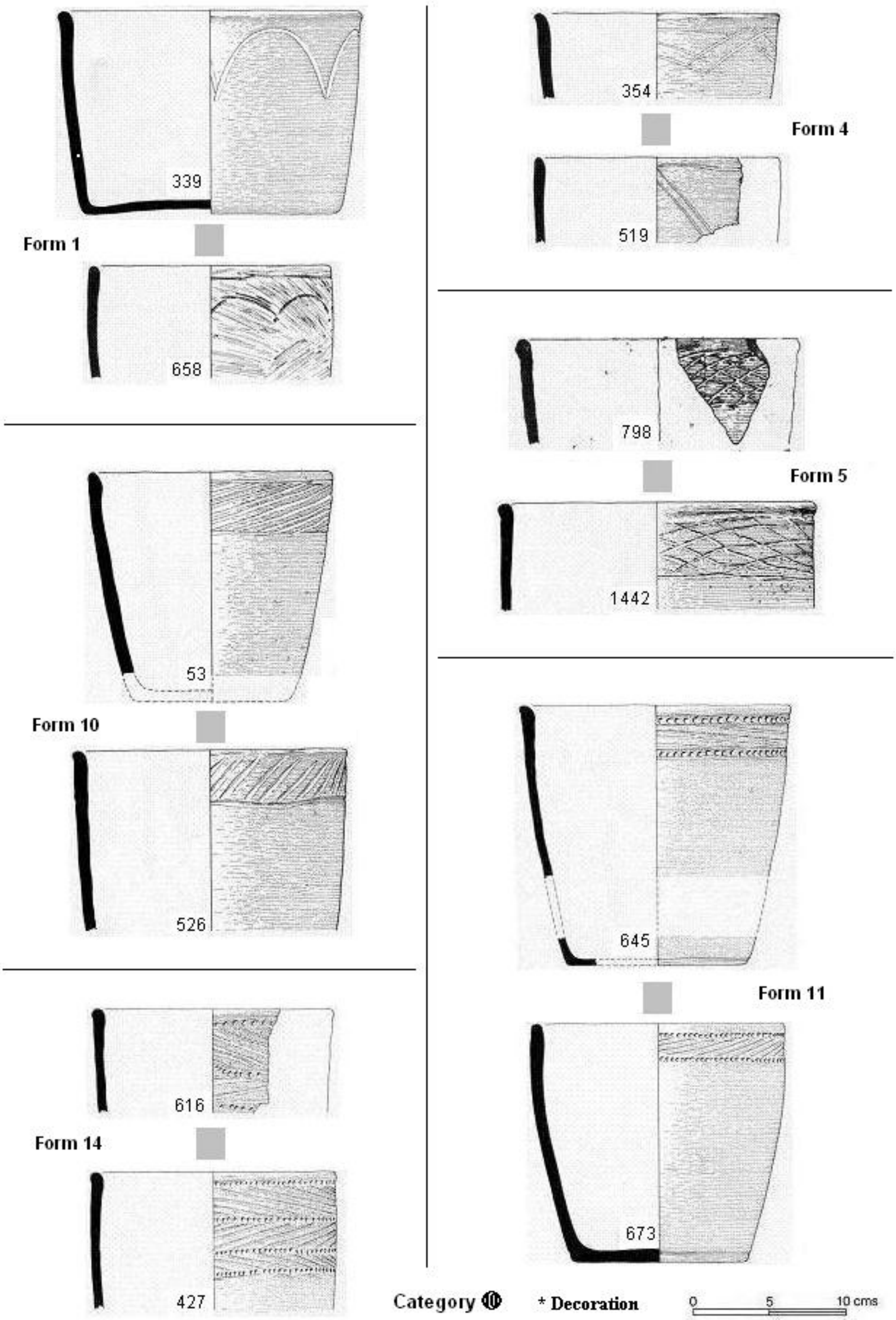


Fig. 6.126 Major forms in category ⑩ (1) from Danebury

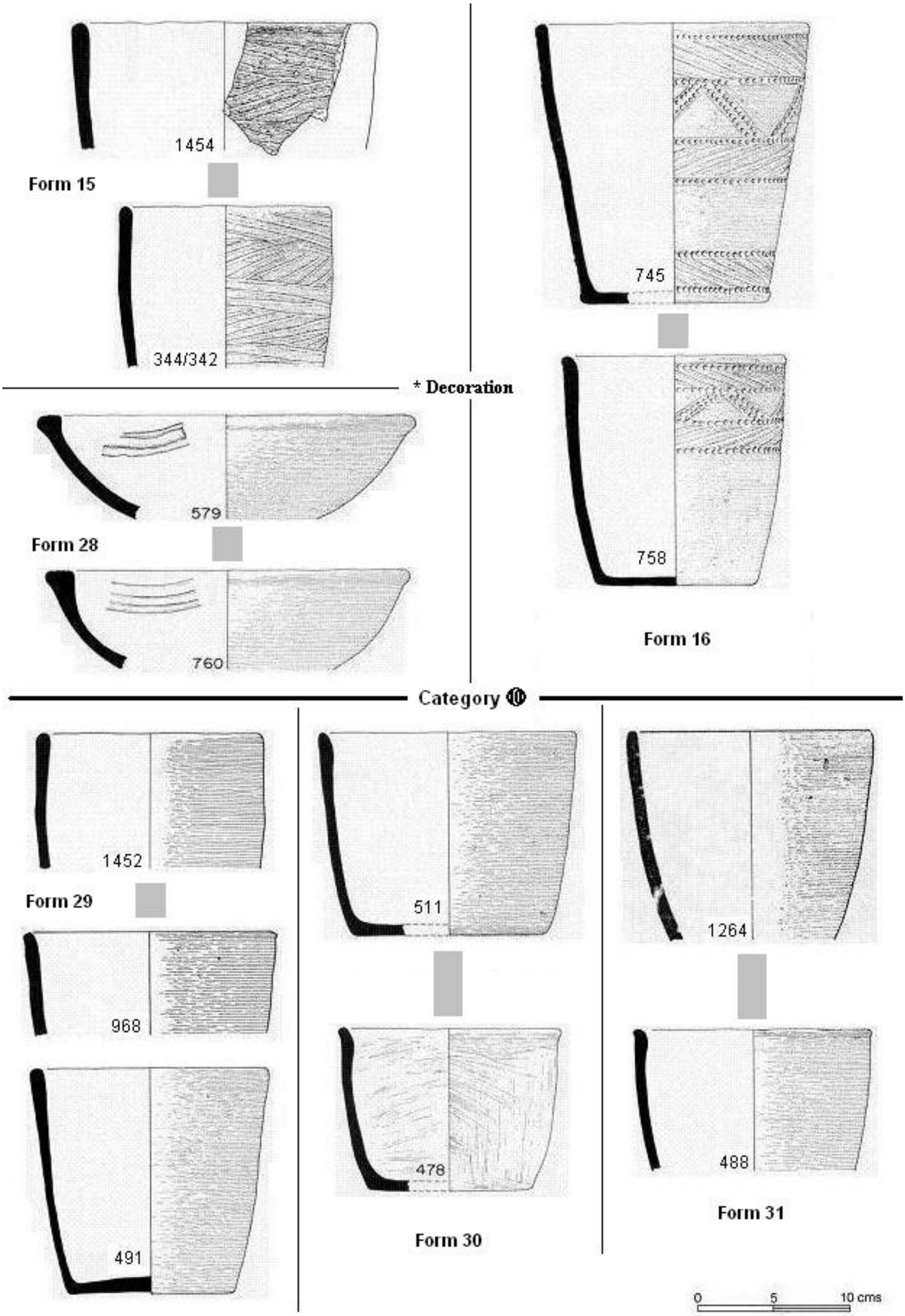


Fig. 6.127 Major forms in category ⑩ (2) from Danebury

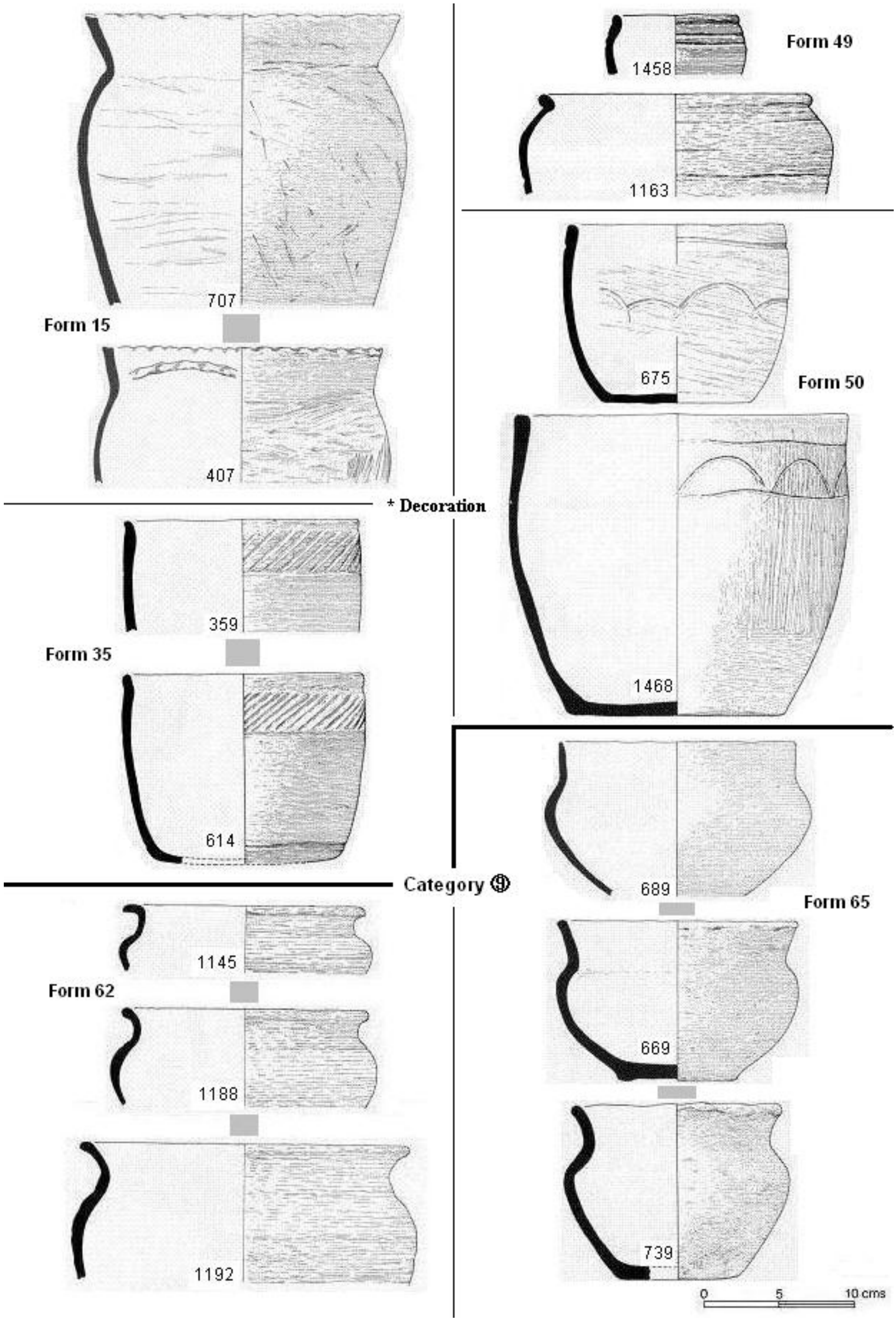


Fig. 6.128 Major forms in category ⑨ (1) from Danebury

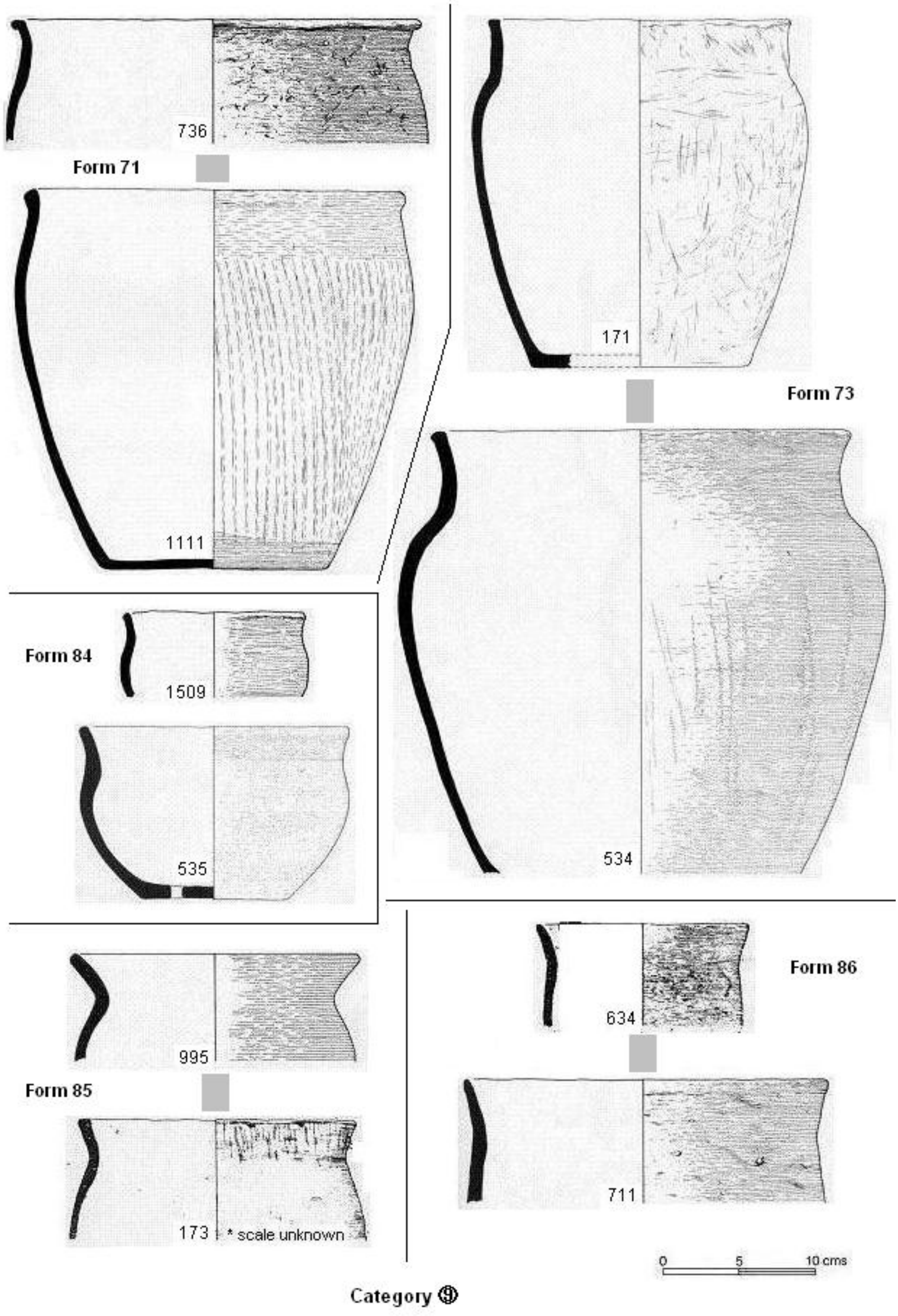


Fig. 6.129 Major forms in category ⑨ (2) from Danebury

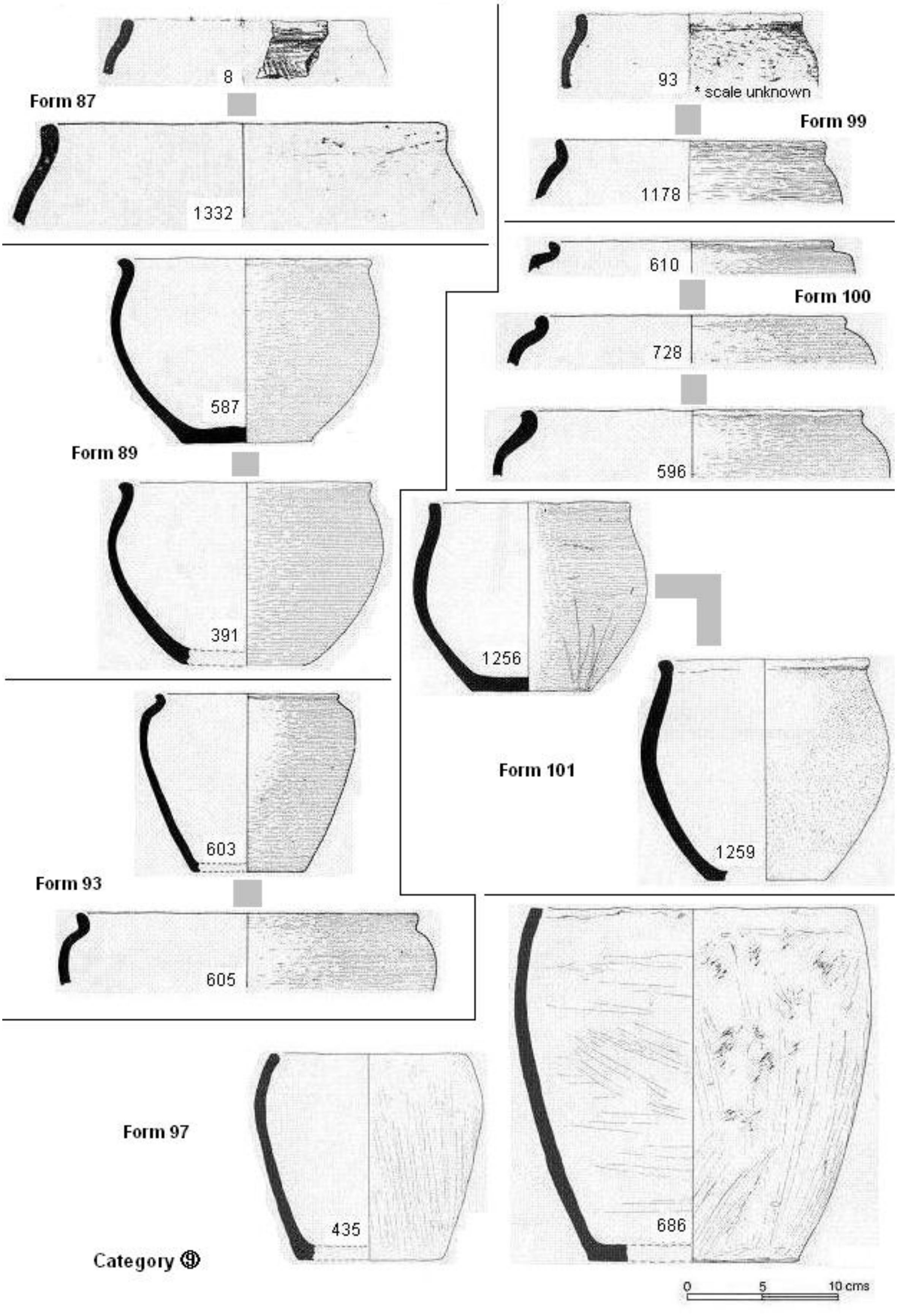


Fig. 6.130 Major forms in category ⑨ (3) from Danebury

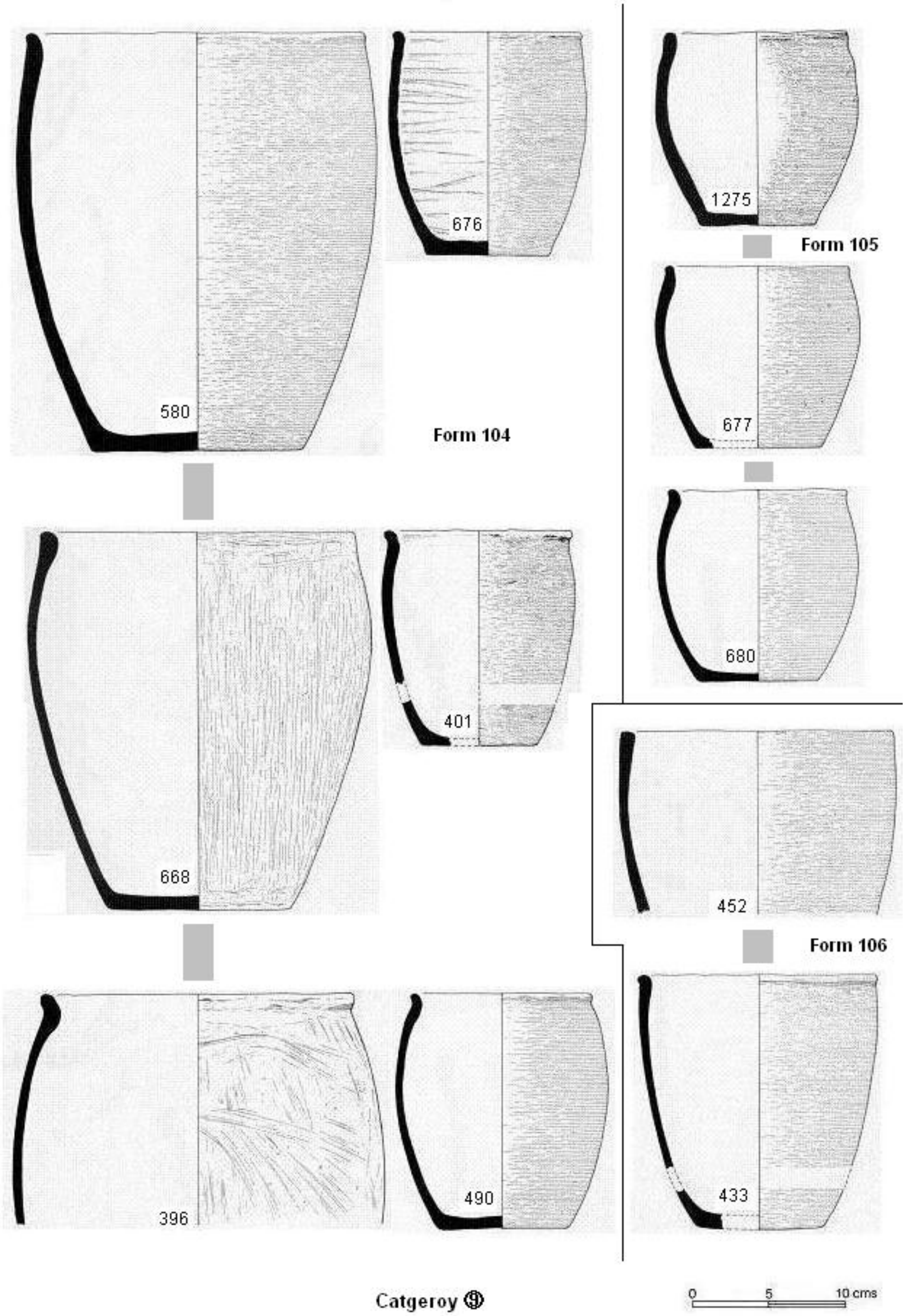


Fig. 6.131 Major forms in category ⑨ (4) from Danebury

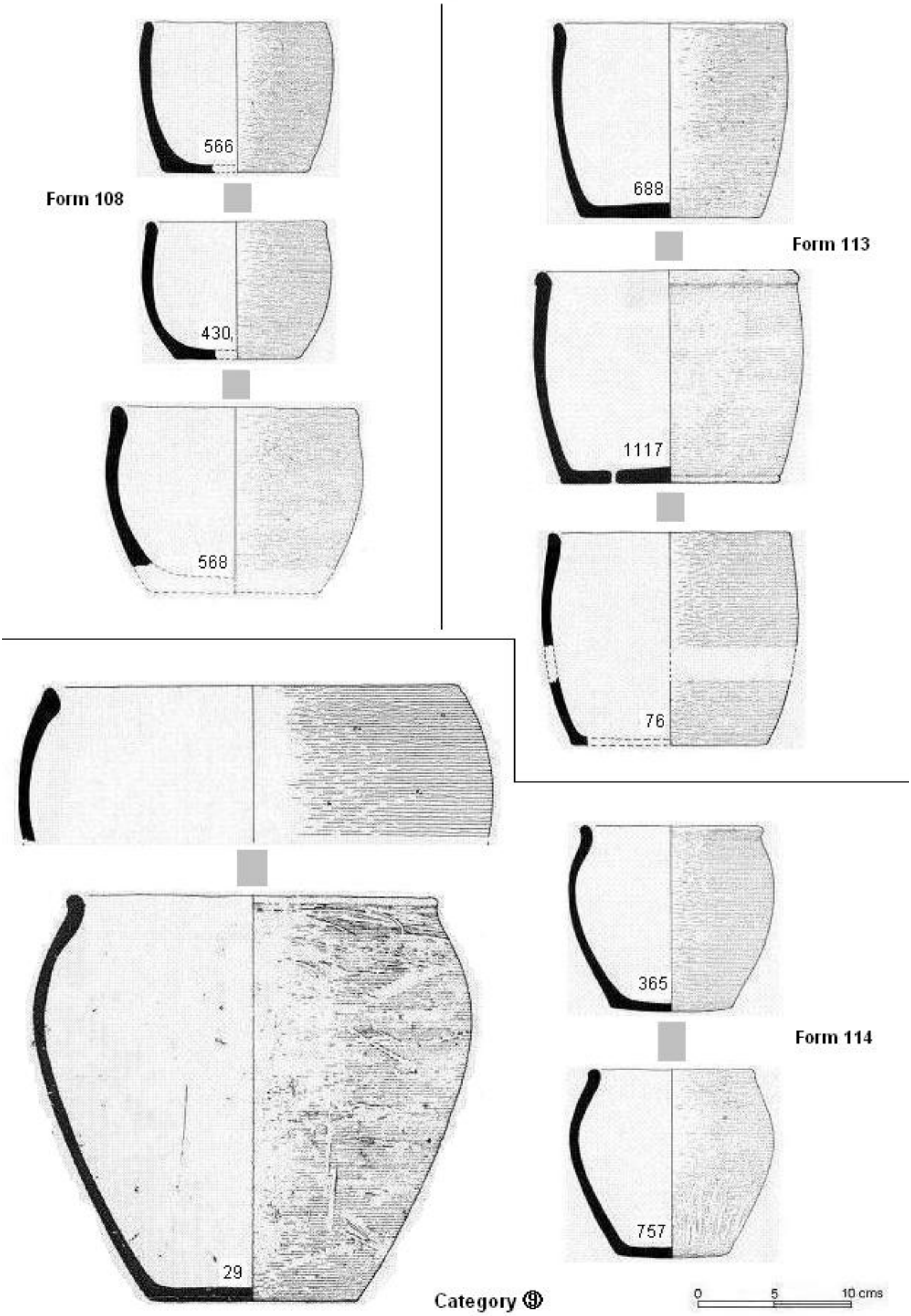


Fig. 6.132 Major forms in category ⑨ (5) from Danebury

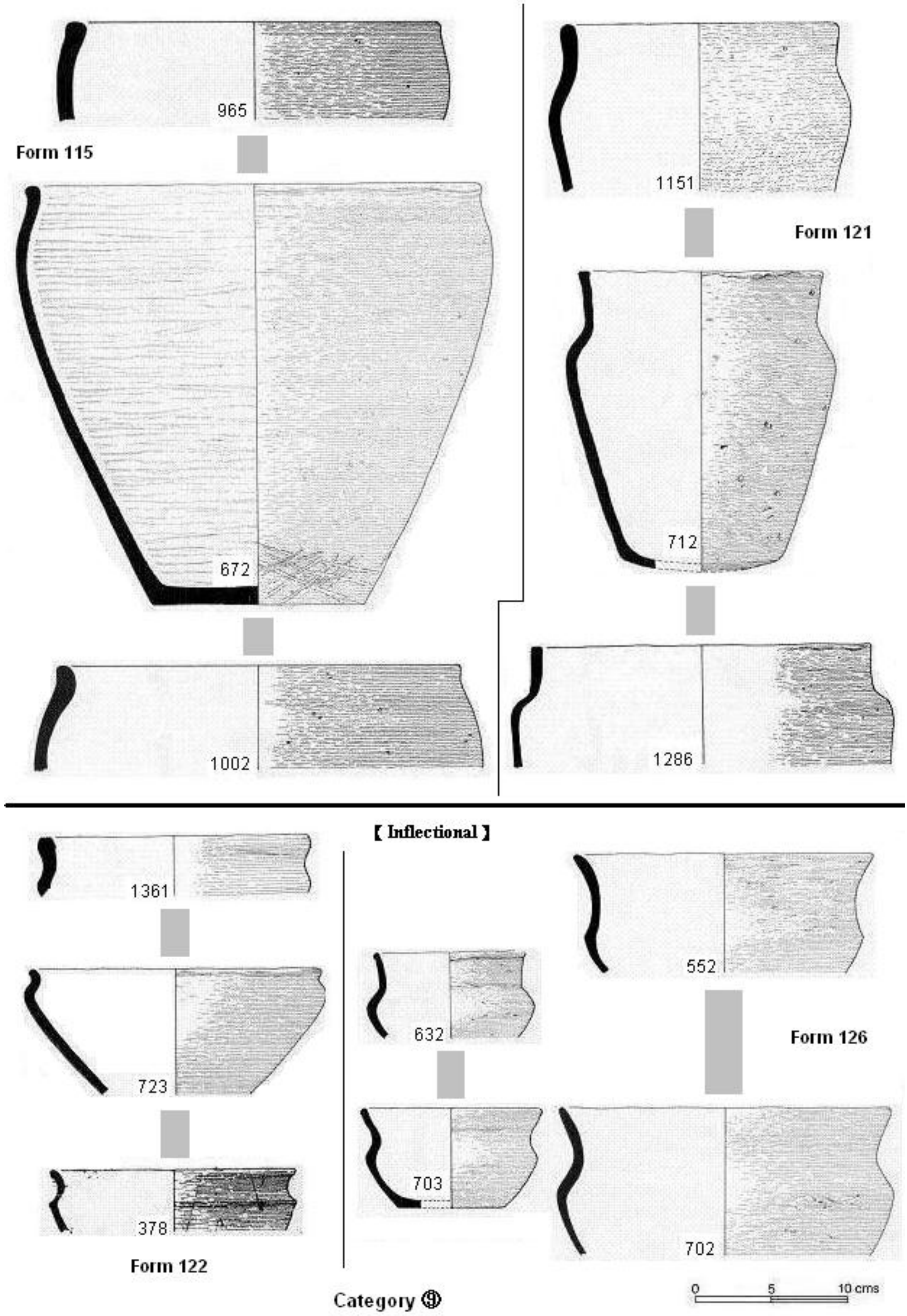


Fig. 6.133 Major forms in category ⑨ (6) from Danebury

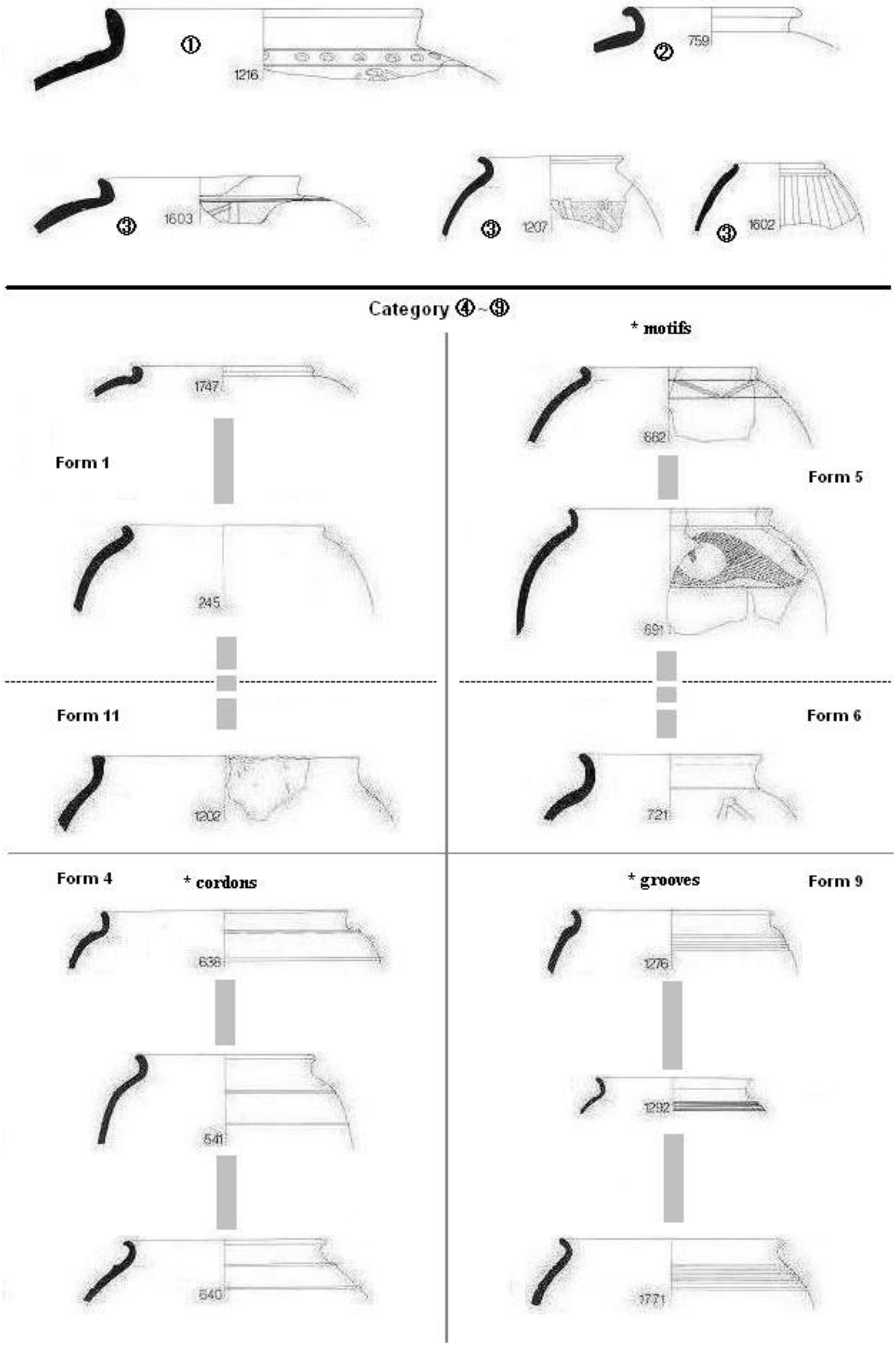


Fig. 6.134 Major forms in categories ①～③(above), ④～⑨(below) from Hengistbury Head

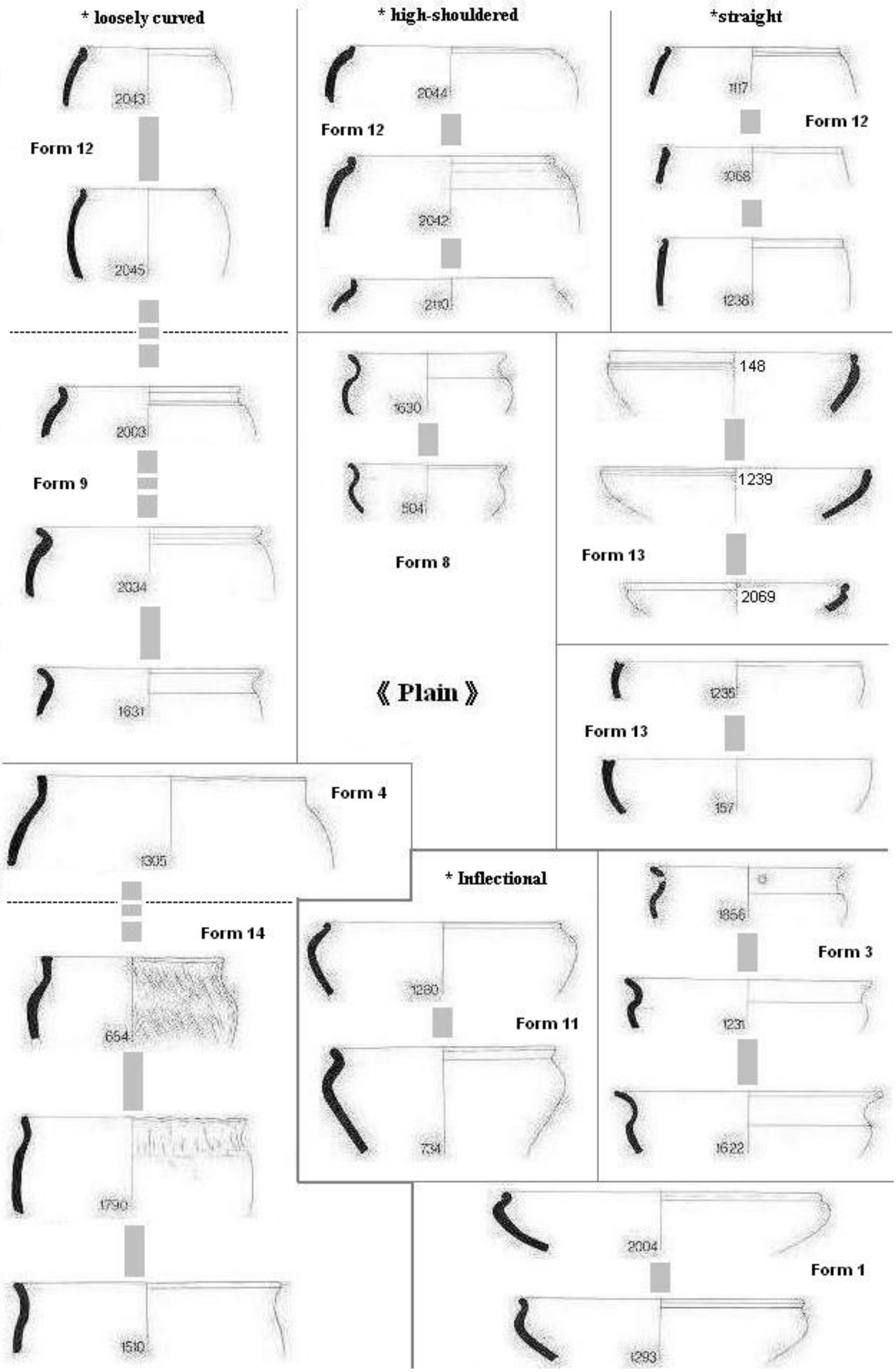


Fig. 6.135 Major forms in category ⑩ from Hengistbury Head

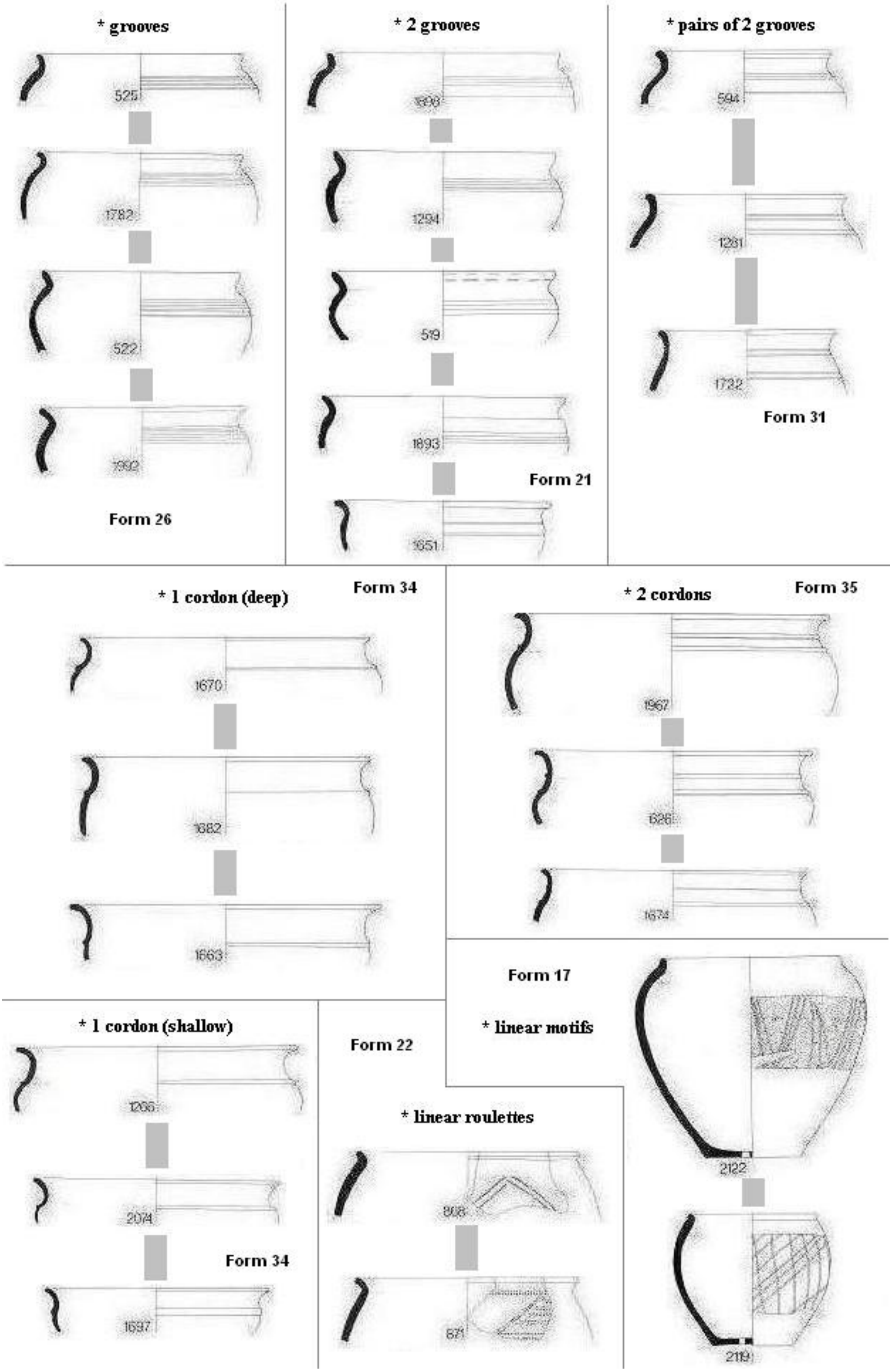


Fig. 6.136 Major forms in category ⑩ from Hengistbury Head

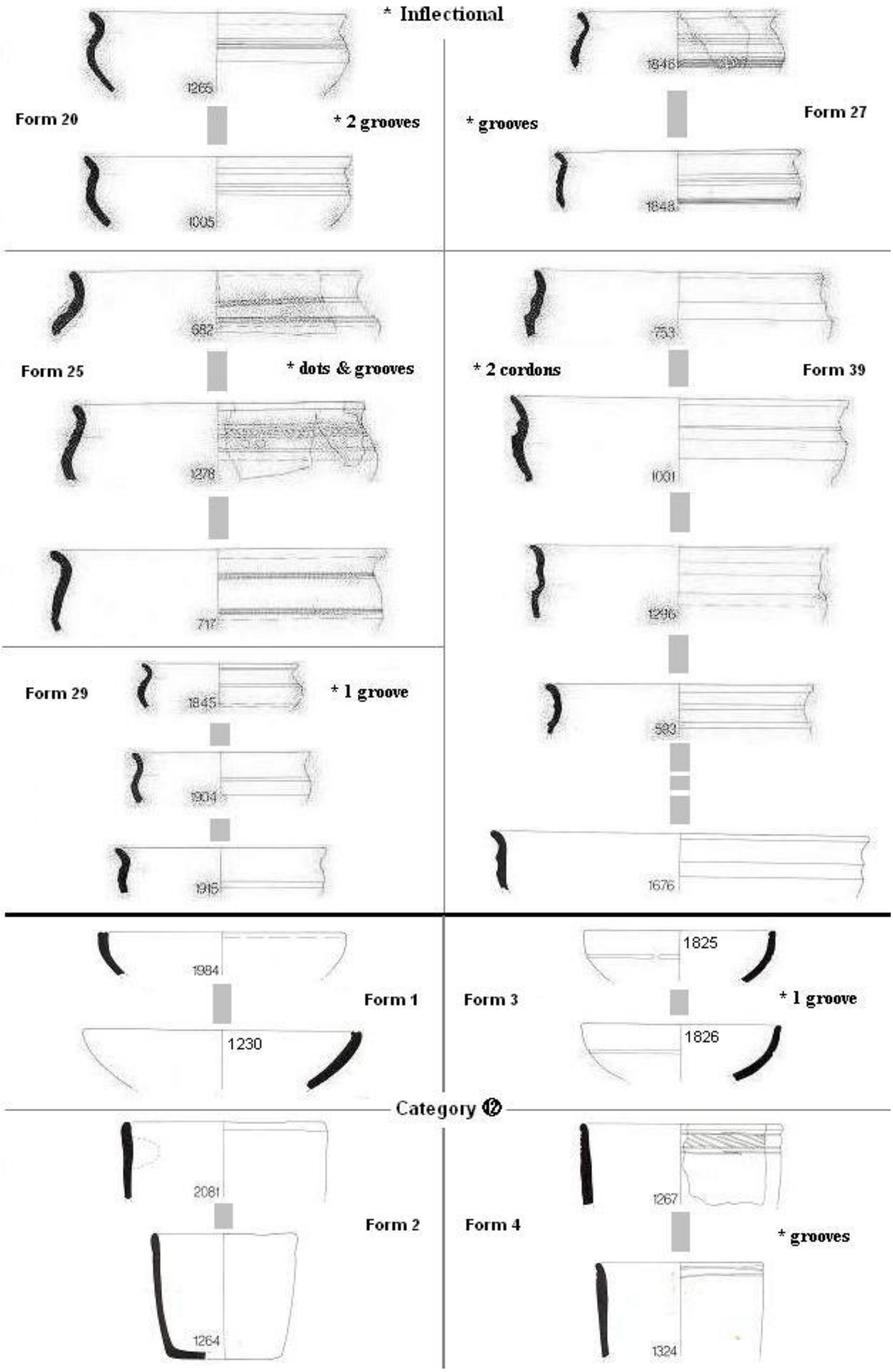


Fig. 6.137 Major forms in categories ⑩(above), ⑫(below) from Hengistbury Head

Fig. 6.138 Cunliffe's simple chronological scheme of Iron Age pottery from Danebury (1)

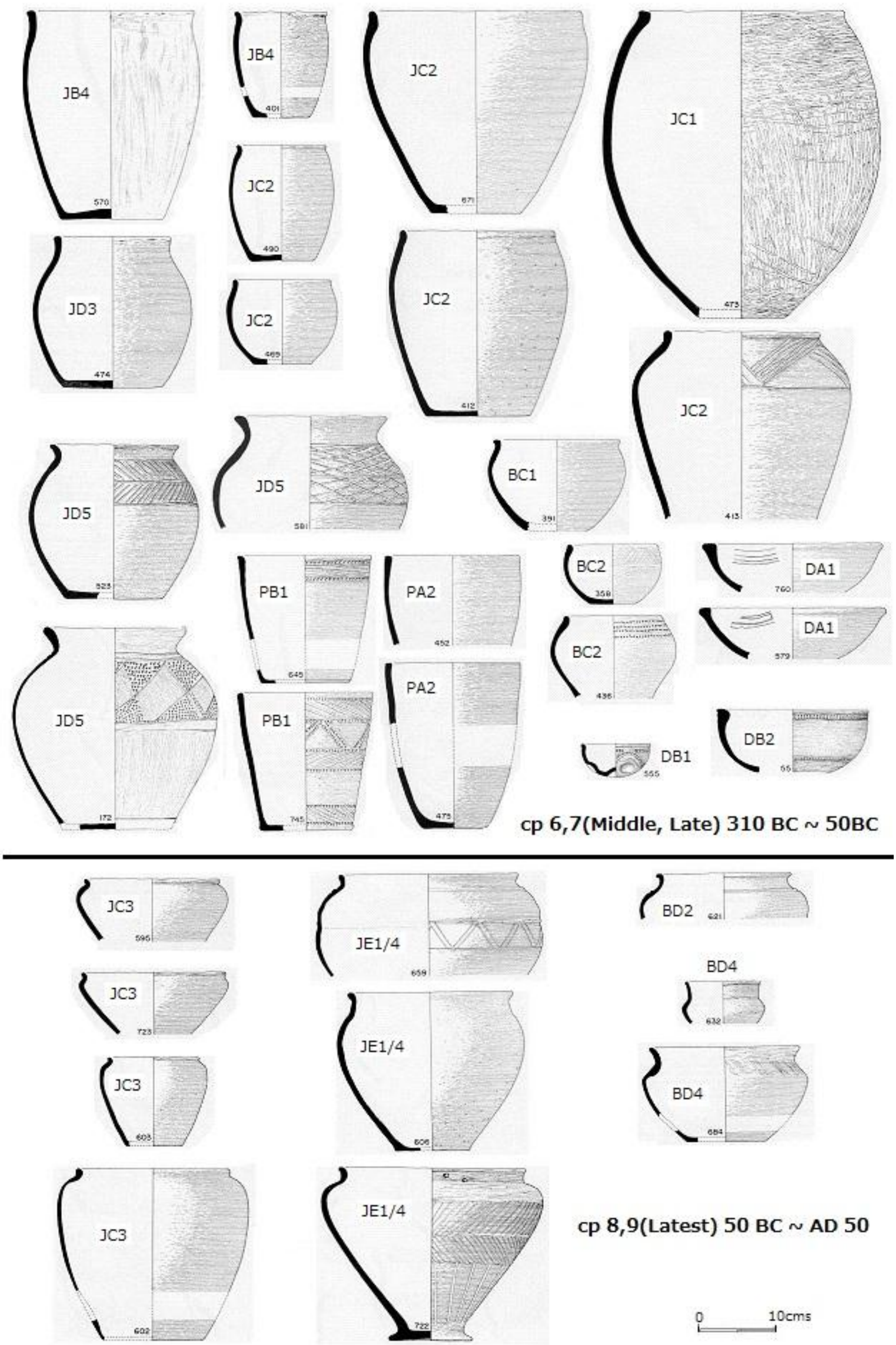
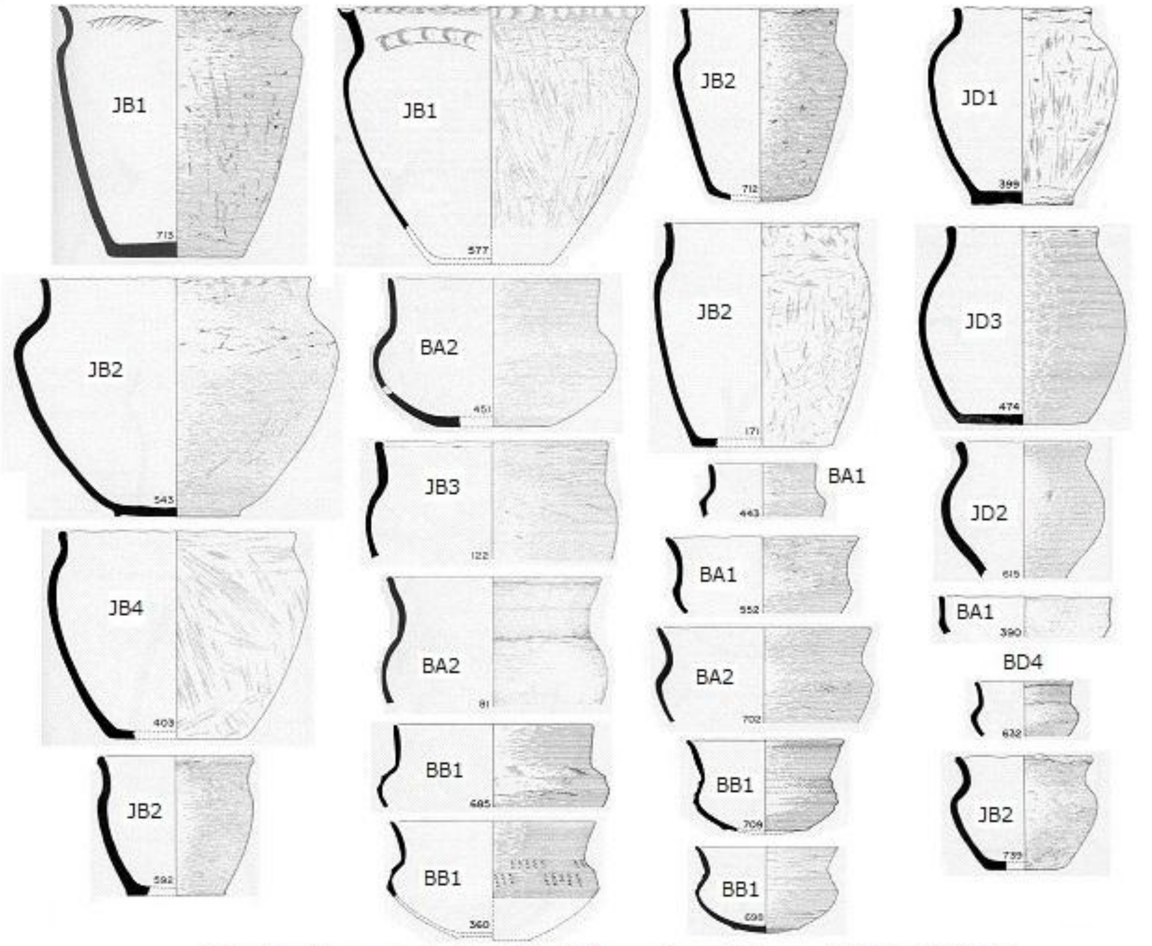
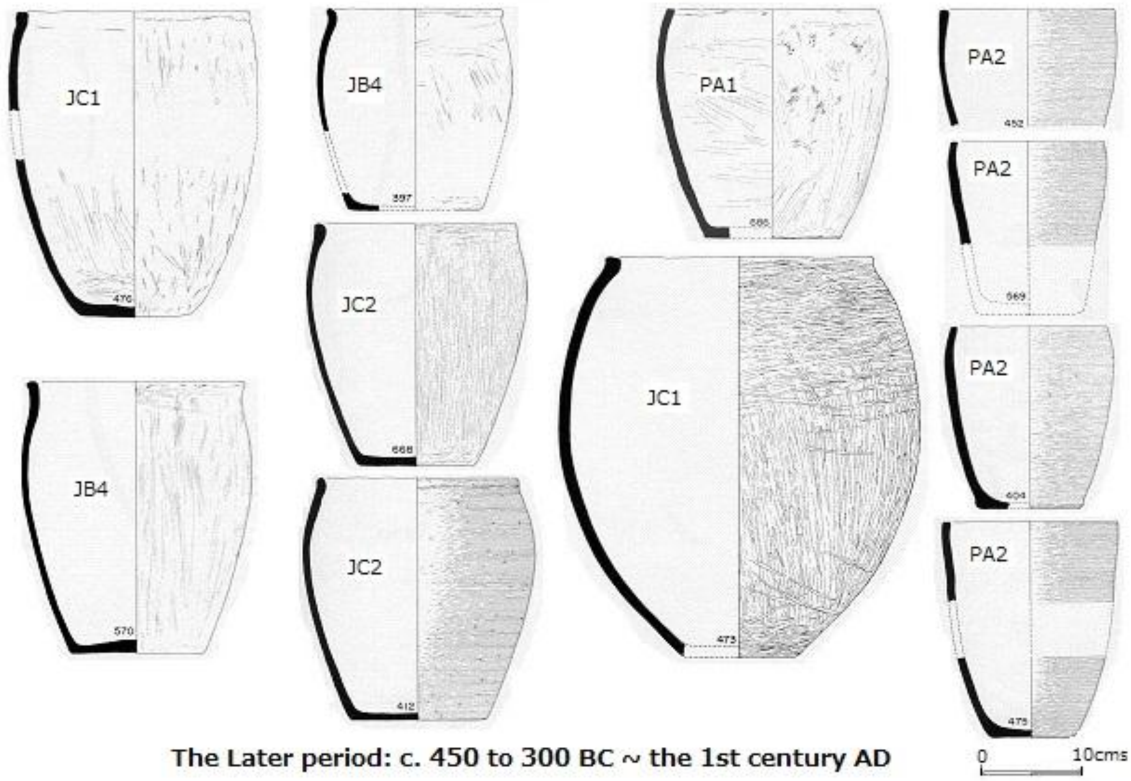


Fig. 6.139 Cunliffe's simple chronological scheme of Iron Age pottery from Danebury (2)



The Earlier period: the 8th/7th century BC ~ c. 450 to 300 BC



The Later period: c. 450 to 300 BC ~ the 1st century AD

Fig. 6.140 The proposed simple chronological scheme of Iron Age pottery from Danebury recommended in this study (1)

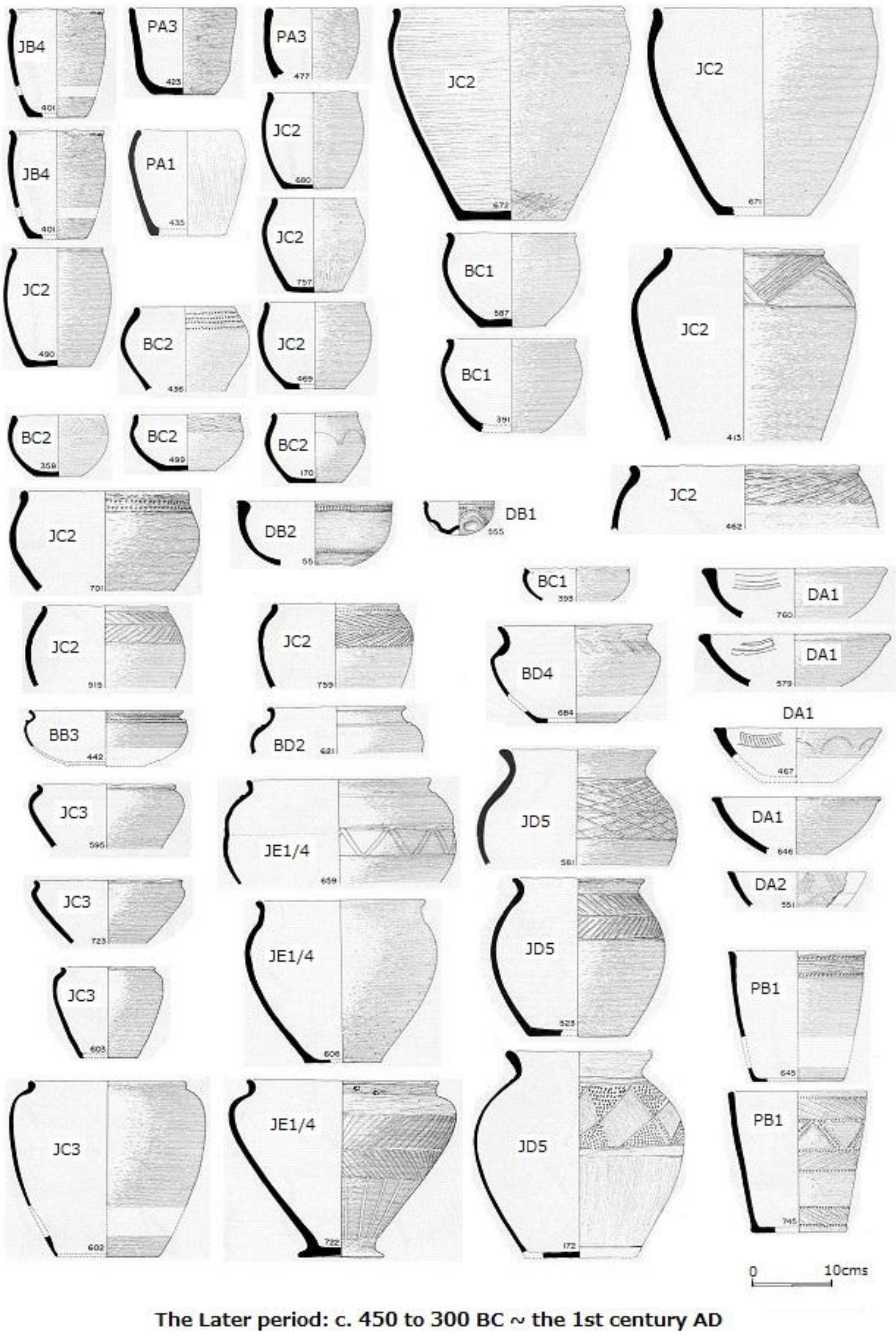


Fig. 6.141 The proposed simple chronological scheme of Iron Age pottery from Danebury recommended in this study (2)

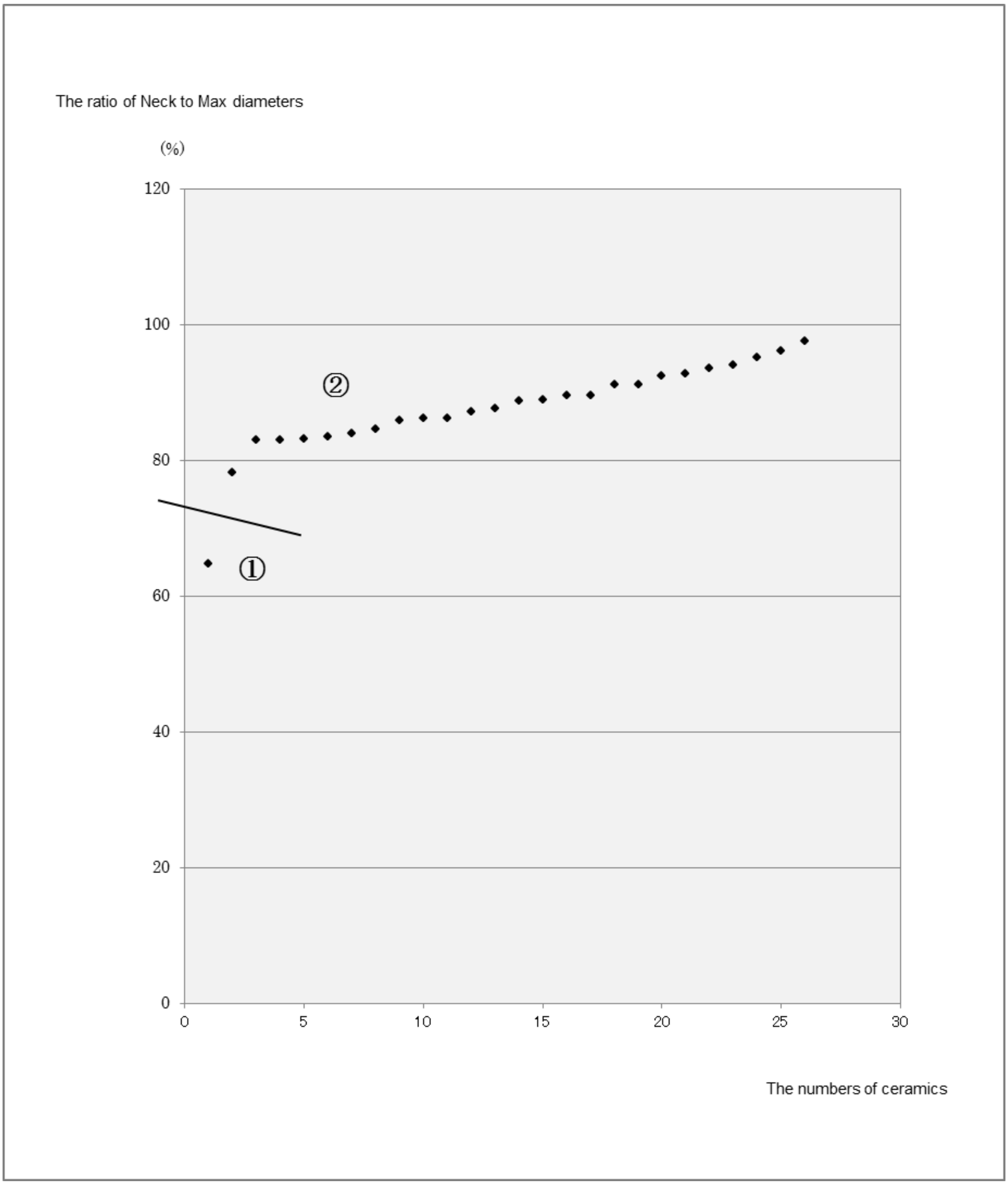


Fig. 6.142 The ratios of neck to max diameters of Iron Age vessels from Battlesbury Bowl

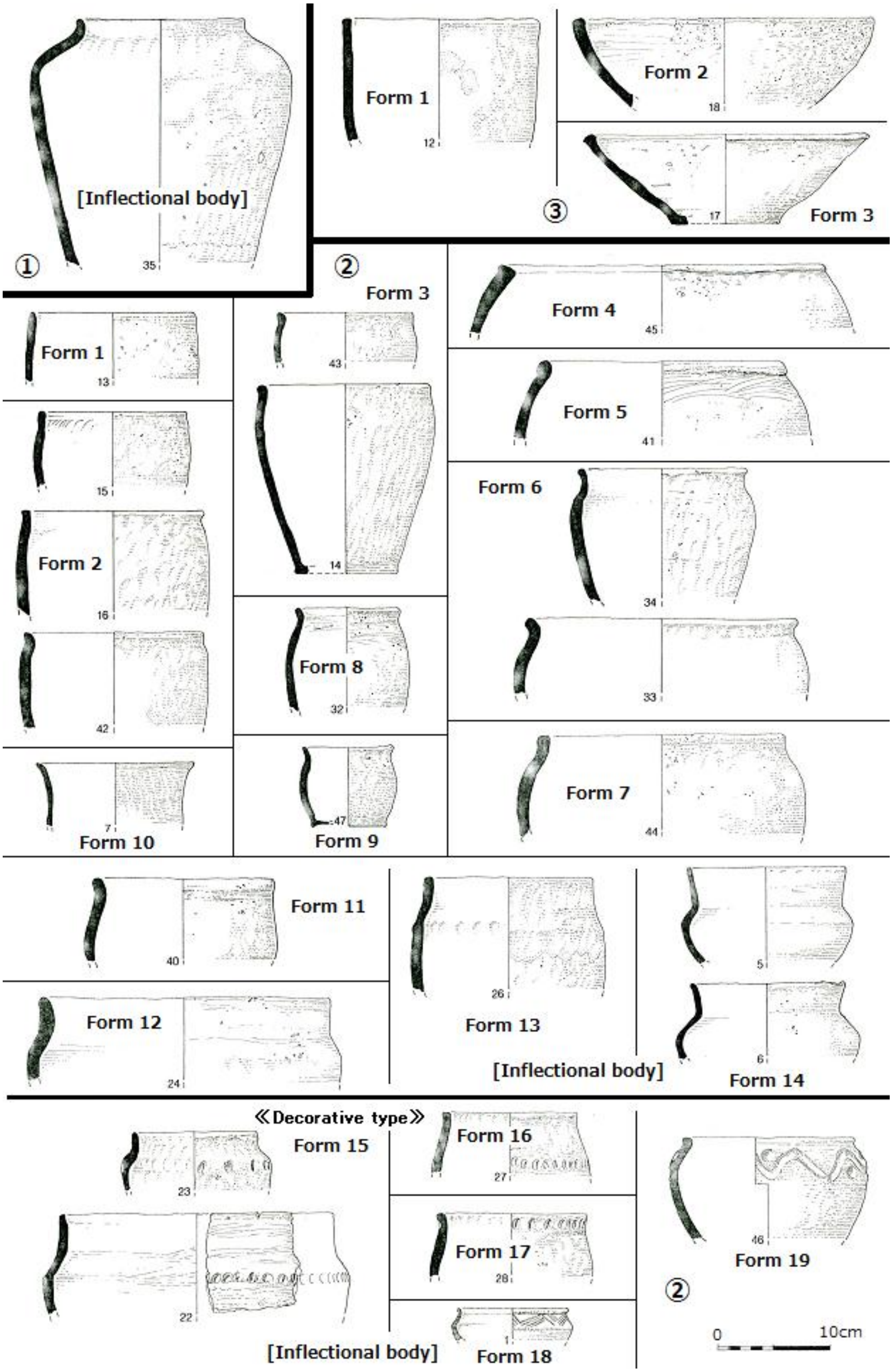


Fig. 6.143 Typological classification of vessels from Battlesbury Bowl

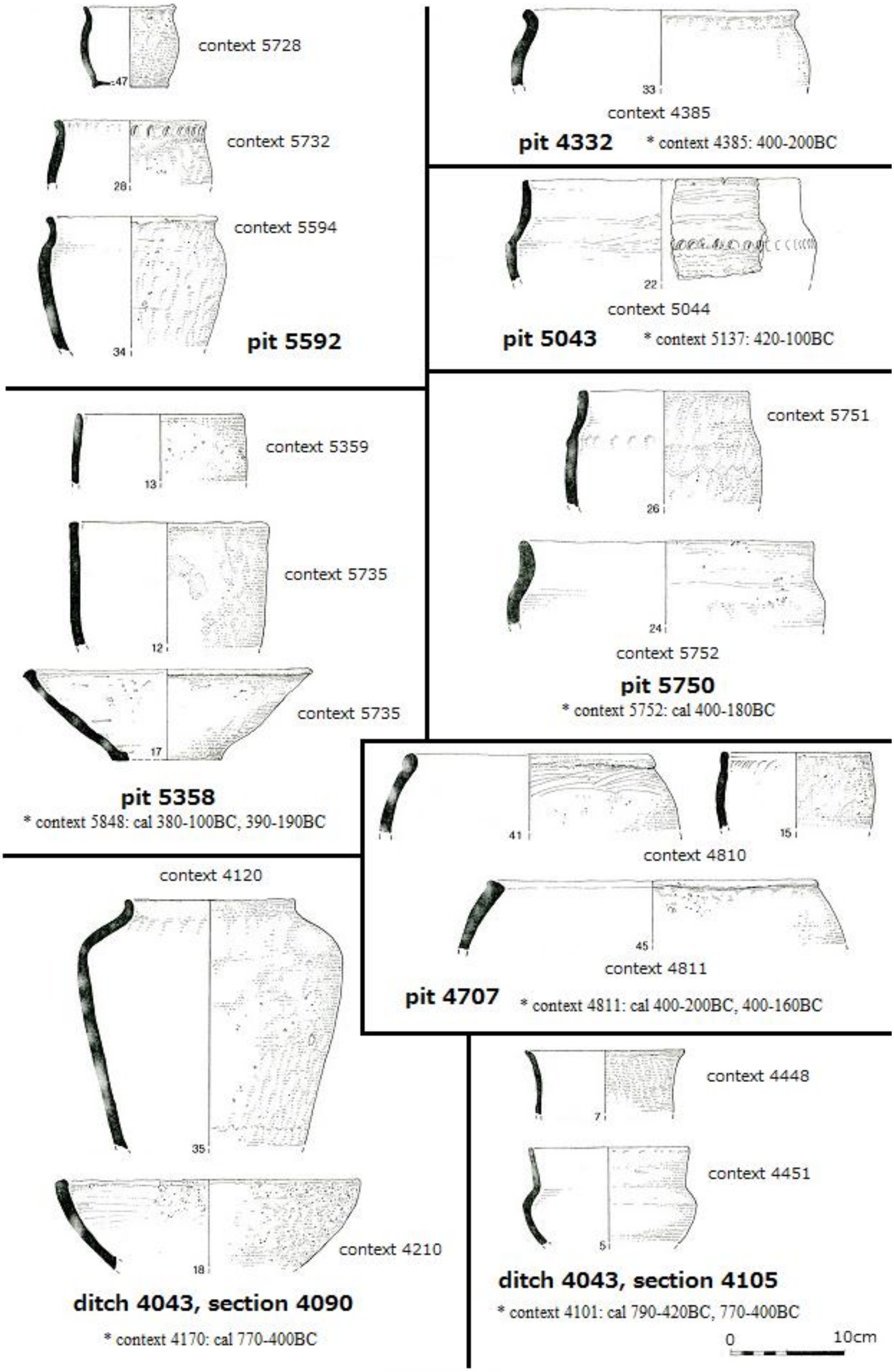


Fig. 6.144 Materials for examination of ceramic chronology of Battlesbury Bowl

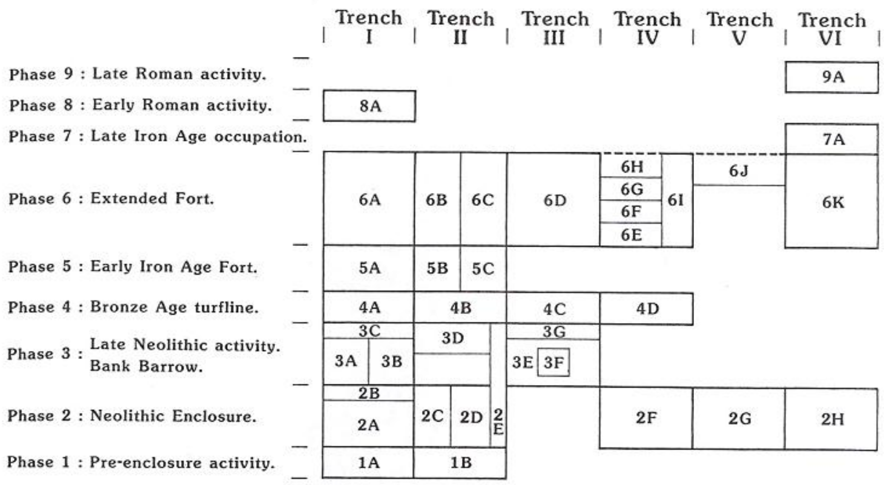


Fig. 6.145 The phase sequences in individual trenches in 1985-6 excavations of Maiden Castle (source: Sharples 1991)

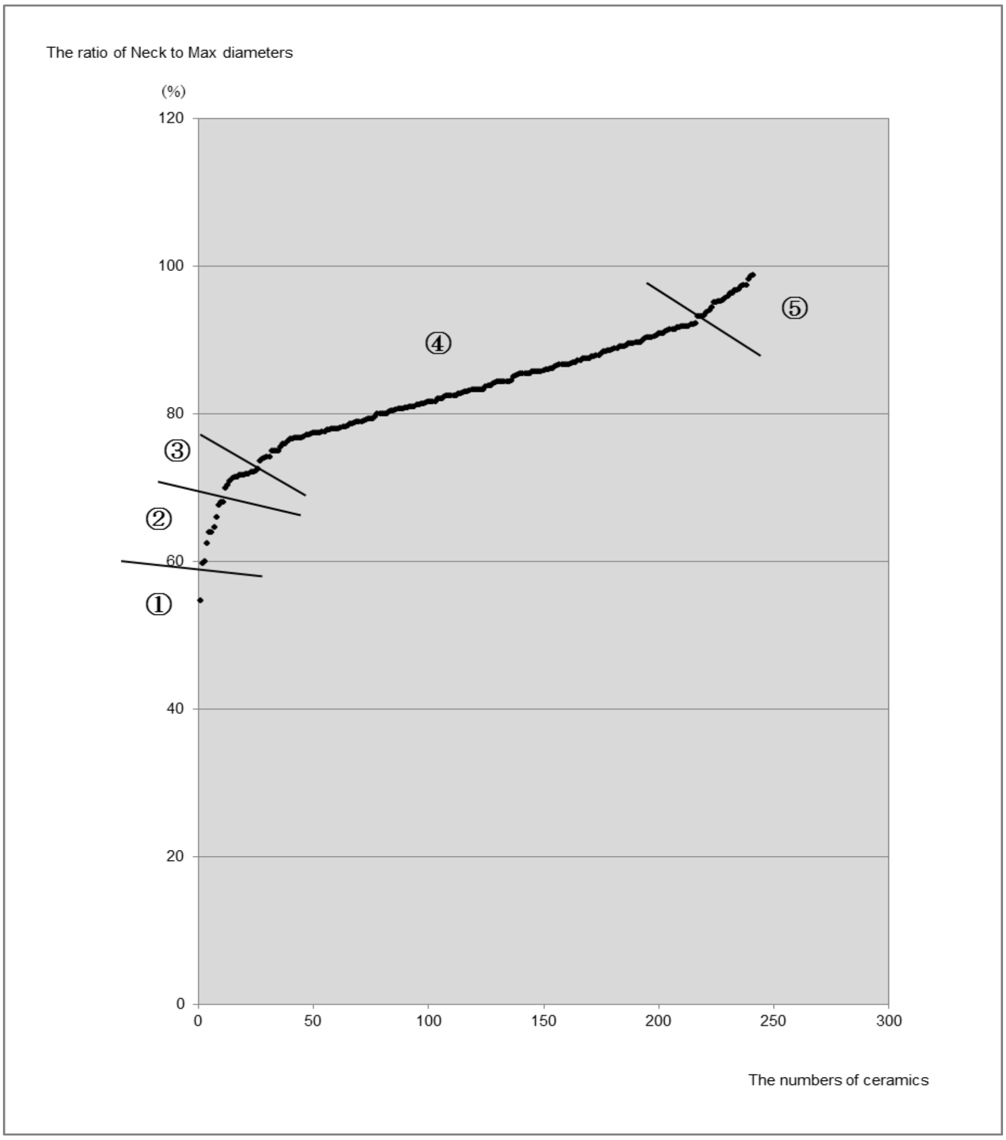


Fig. 6.146 The ratios of neck to max diameters of Iron Age vessels from Maiden Castle

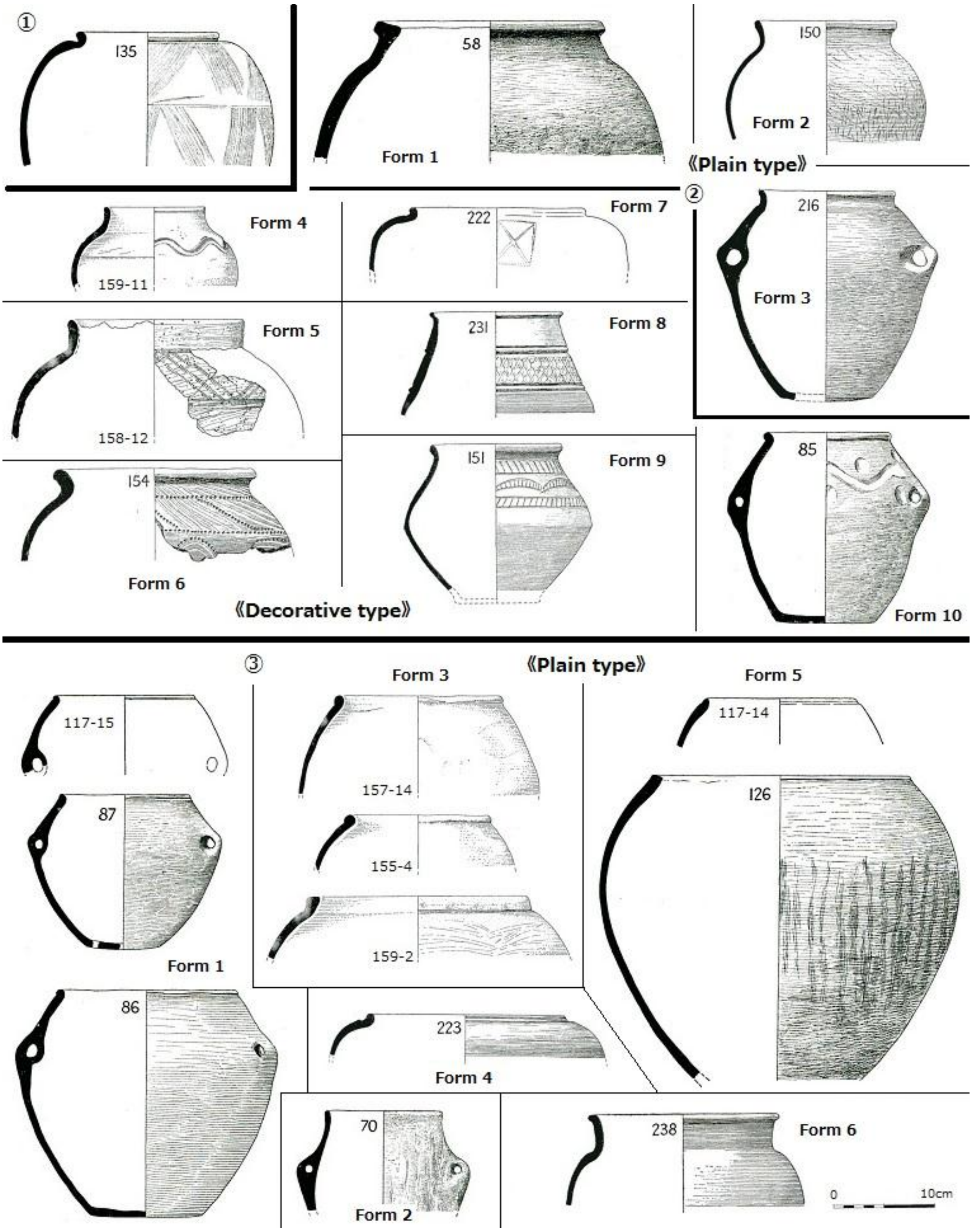


Fig. 6.147 Typological classification of vessels from Maiden Castle (Categories ① to ③)

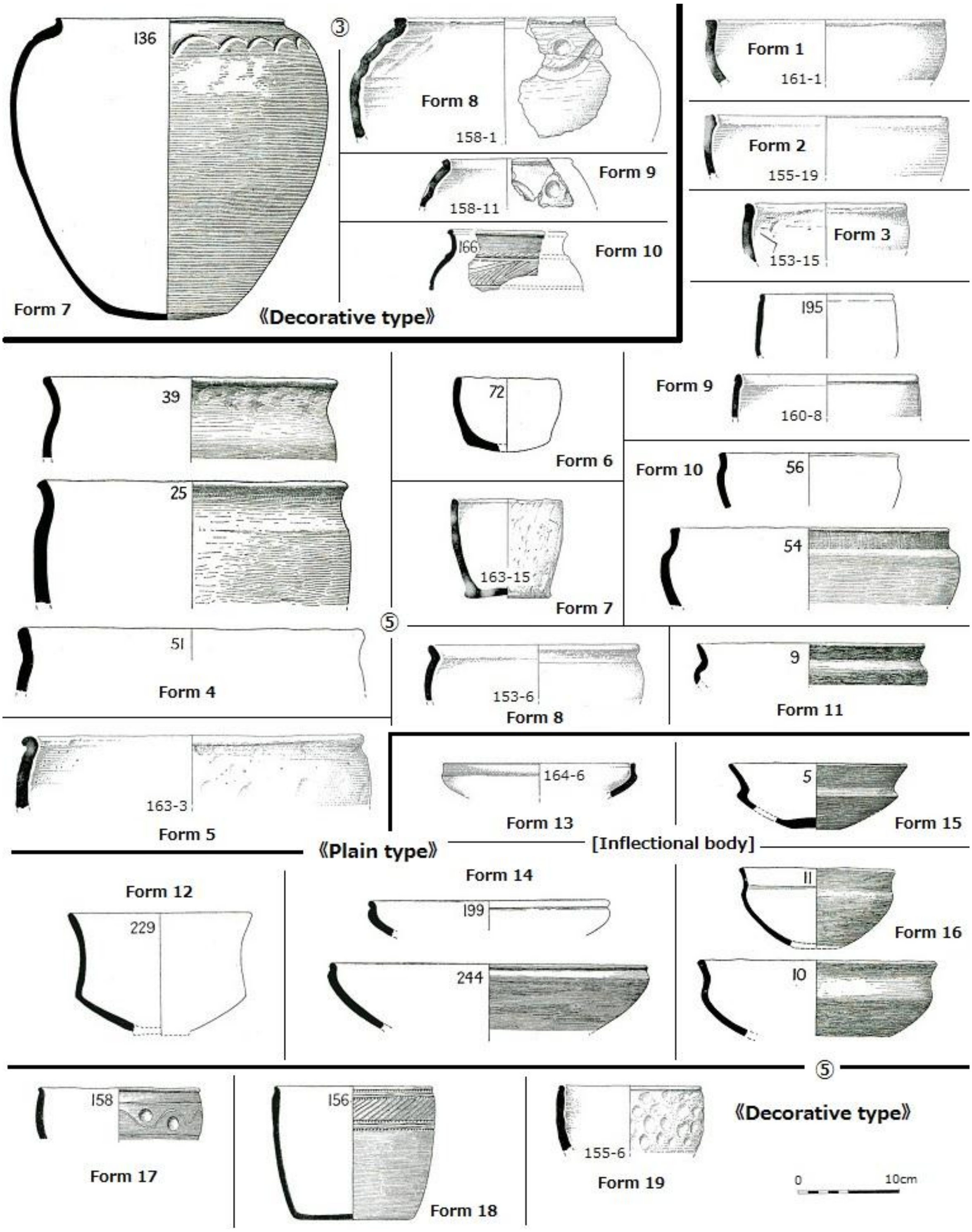


Fig. 6.148 Typological classification of vessels from Maiden Castle (Categories ③ and ⑤)

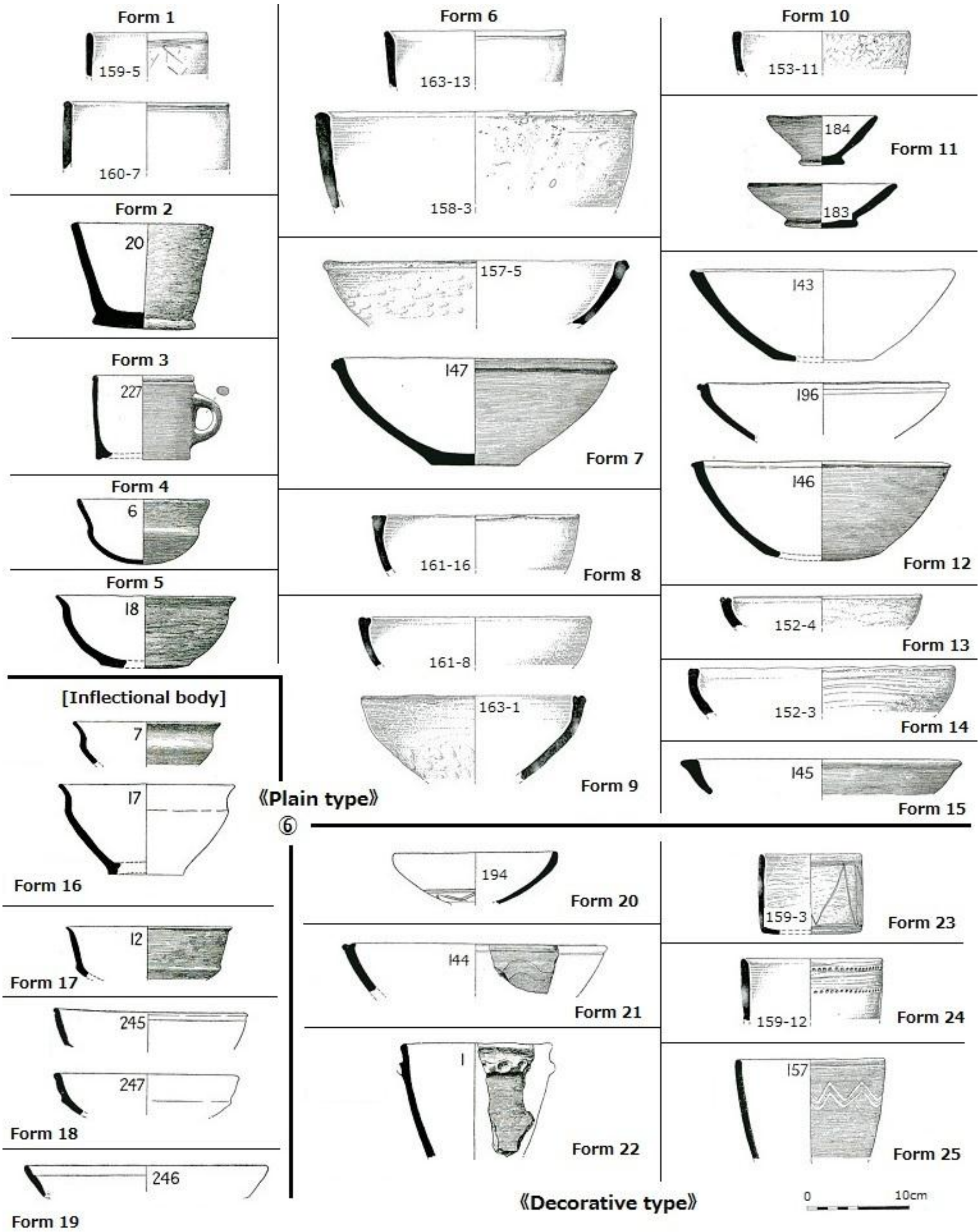


Fig. 6.149 Typological classification of vessels from Maiden Castle (Category ⑥)

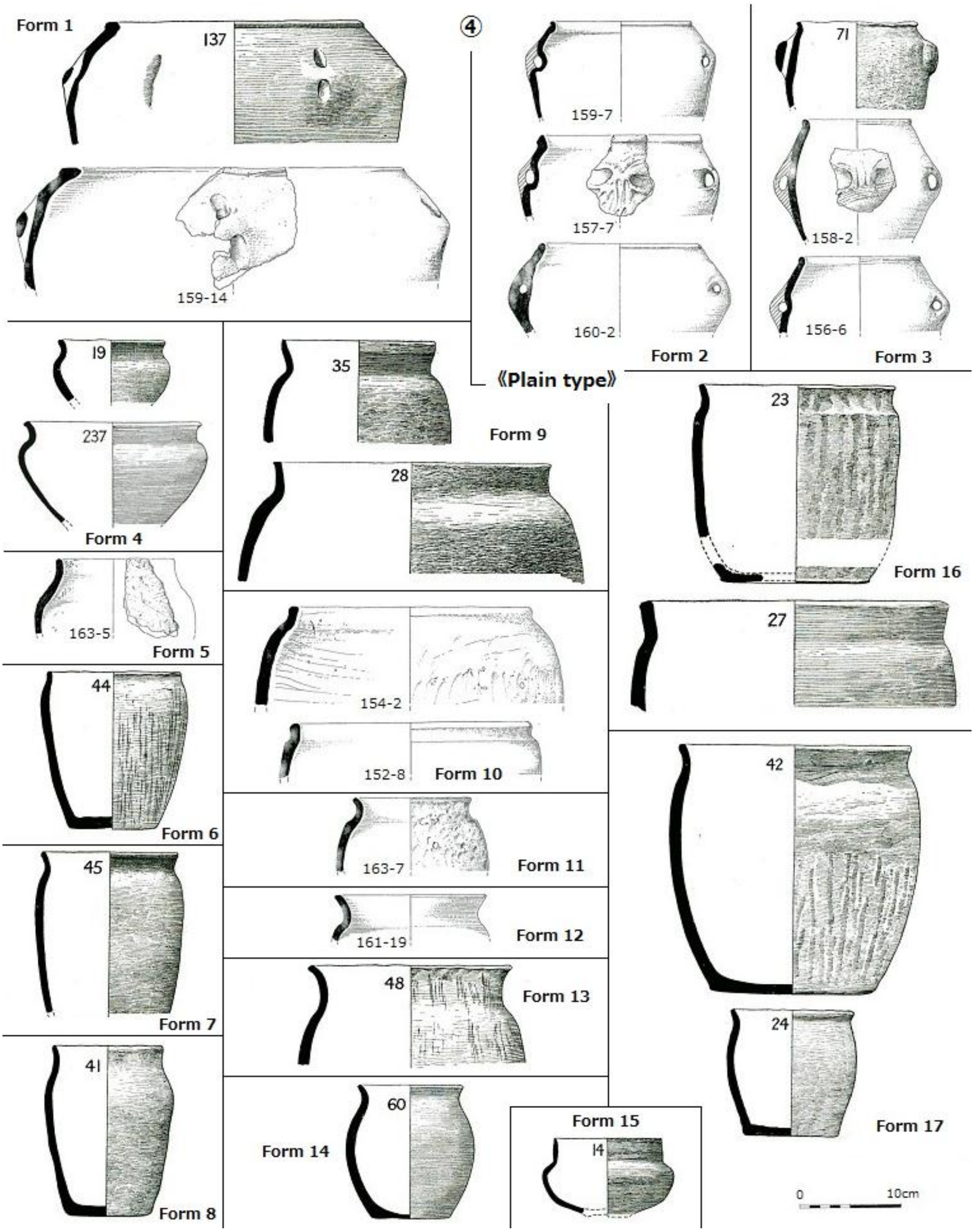


Fig. 6.150　Typological classification of vessels from Maiden Castle (Category ④-1)

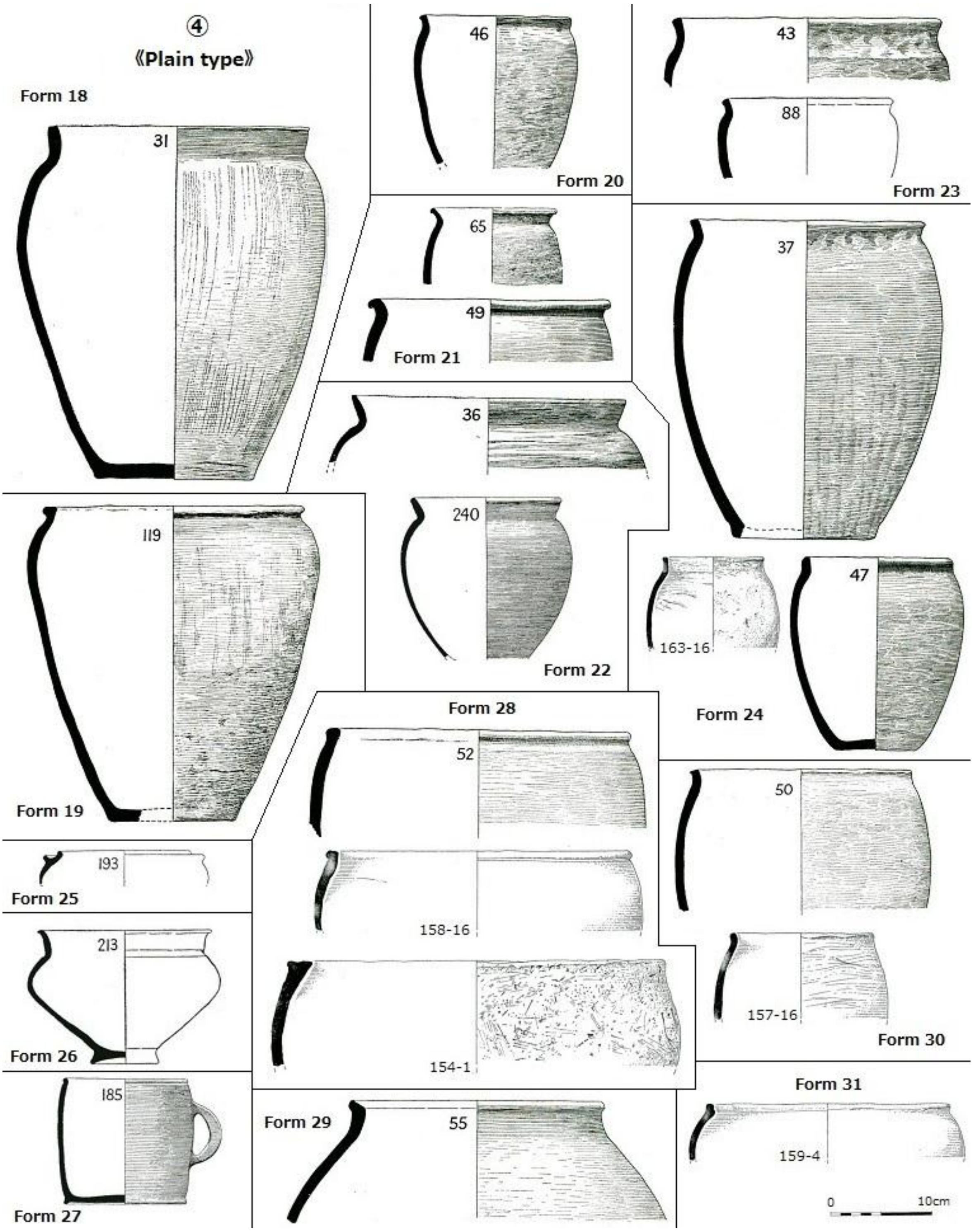


Fig. 6.151　Typological classification of vessels from Maiden Castle (Category ④-2)

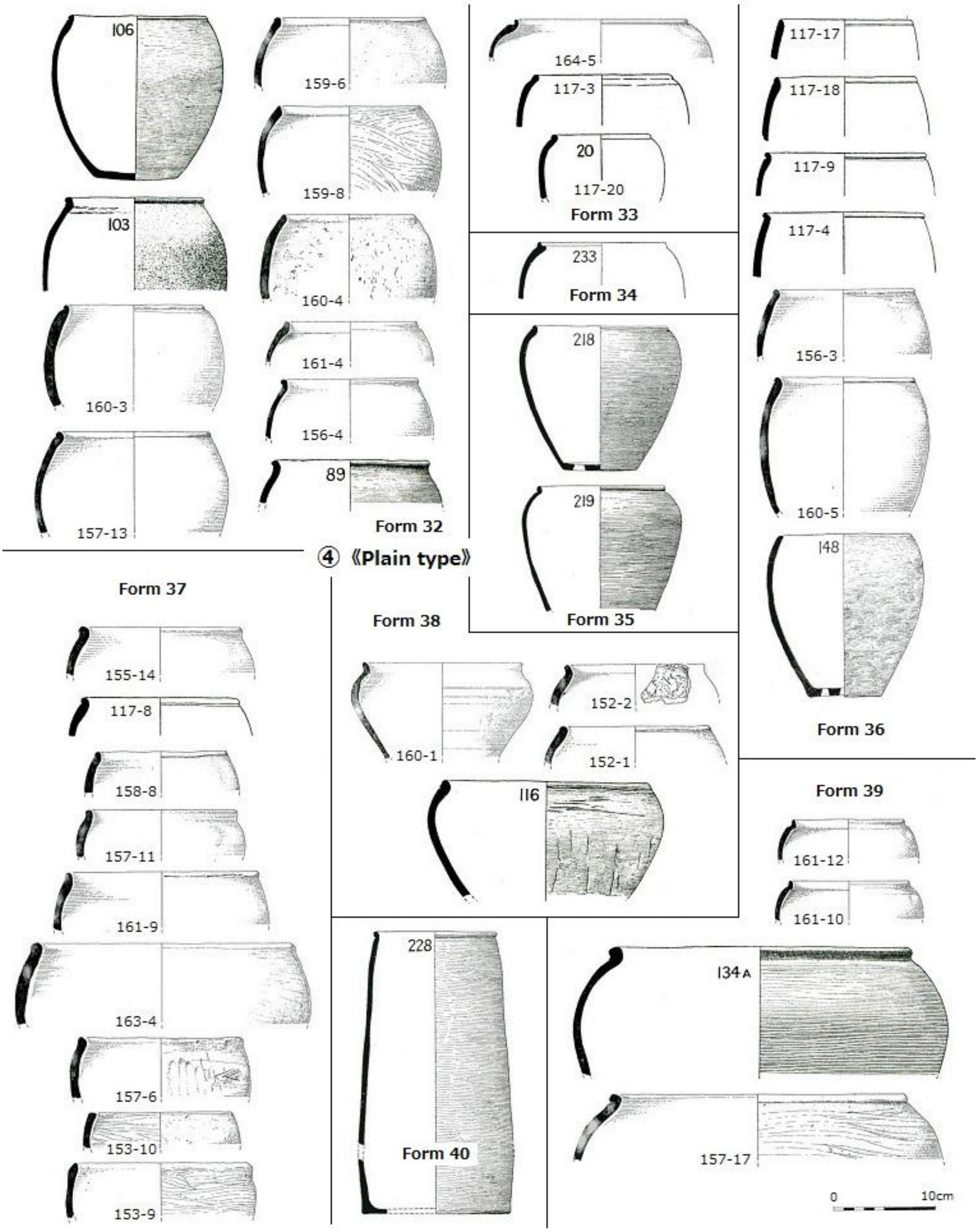


Fig. 6.152 Typological classification of vessels from Maiden Castle (Category ④-3)

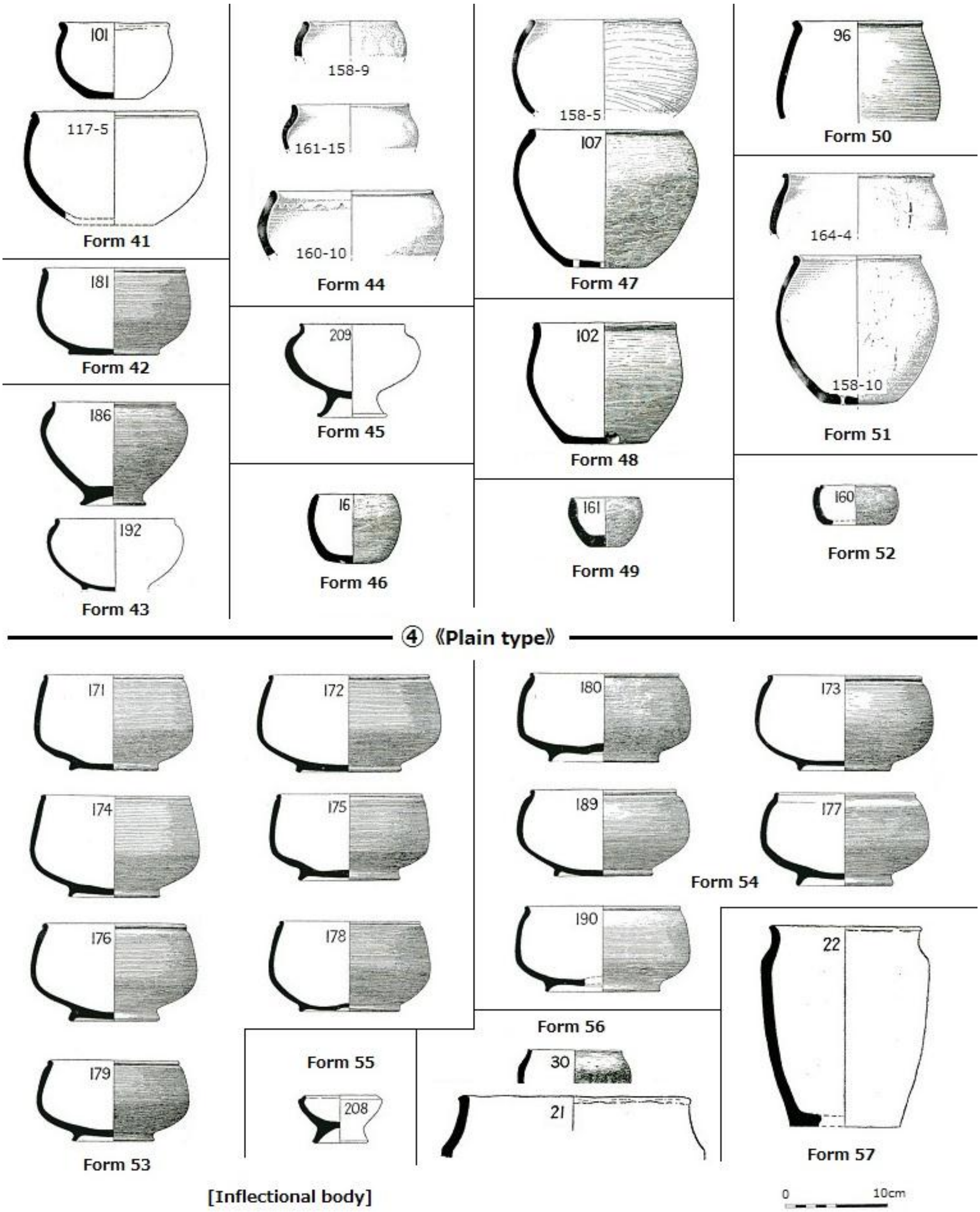


Fig. 6.153 Typological classification of vessels from Maiden Castle (Category ④-4)

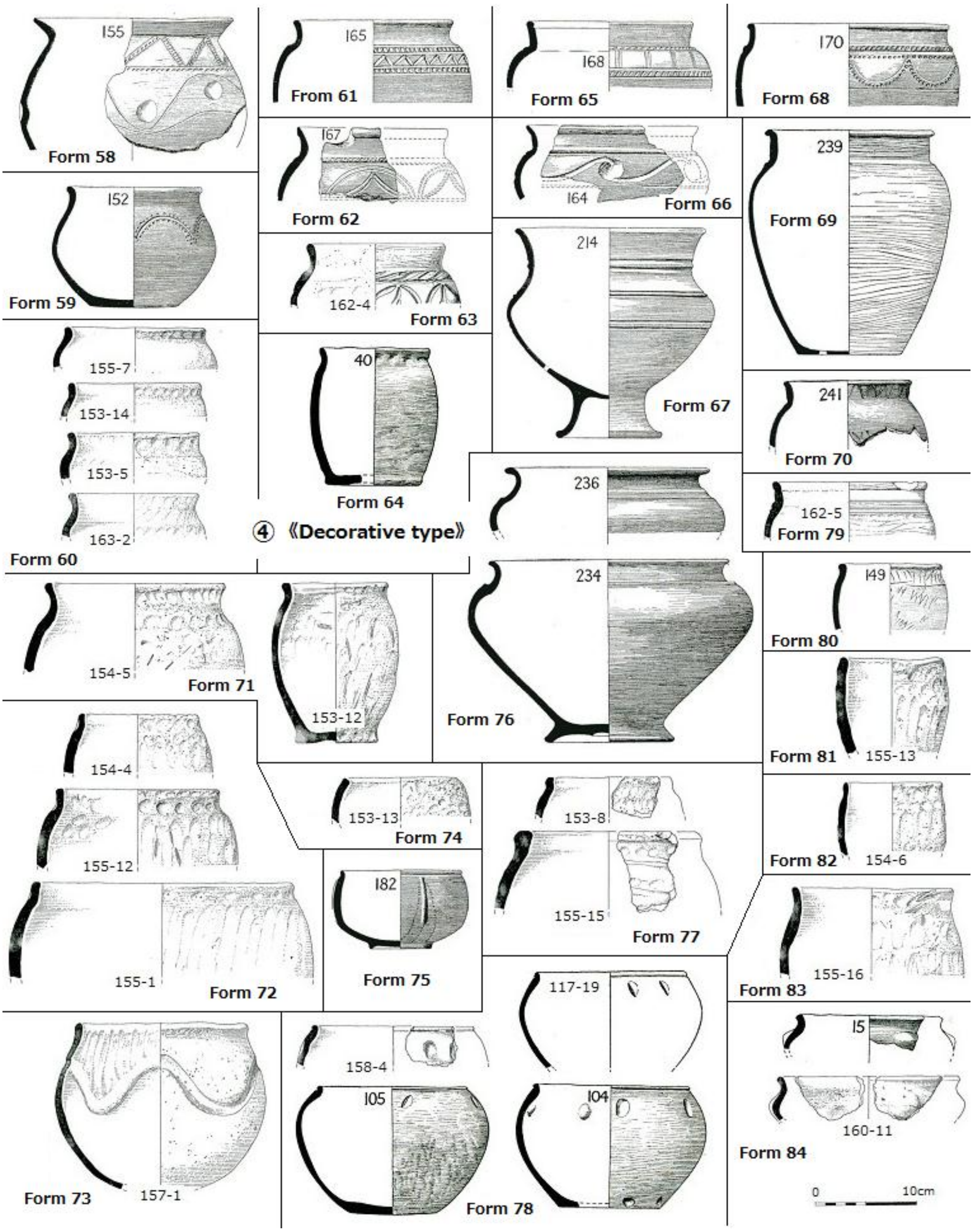


Fig. 6.154 Typological classification of vessels from Maiden Castle (Category ④-5)

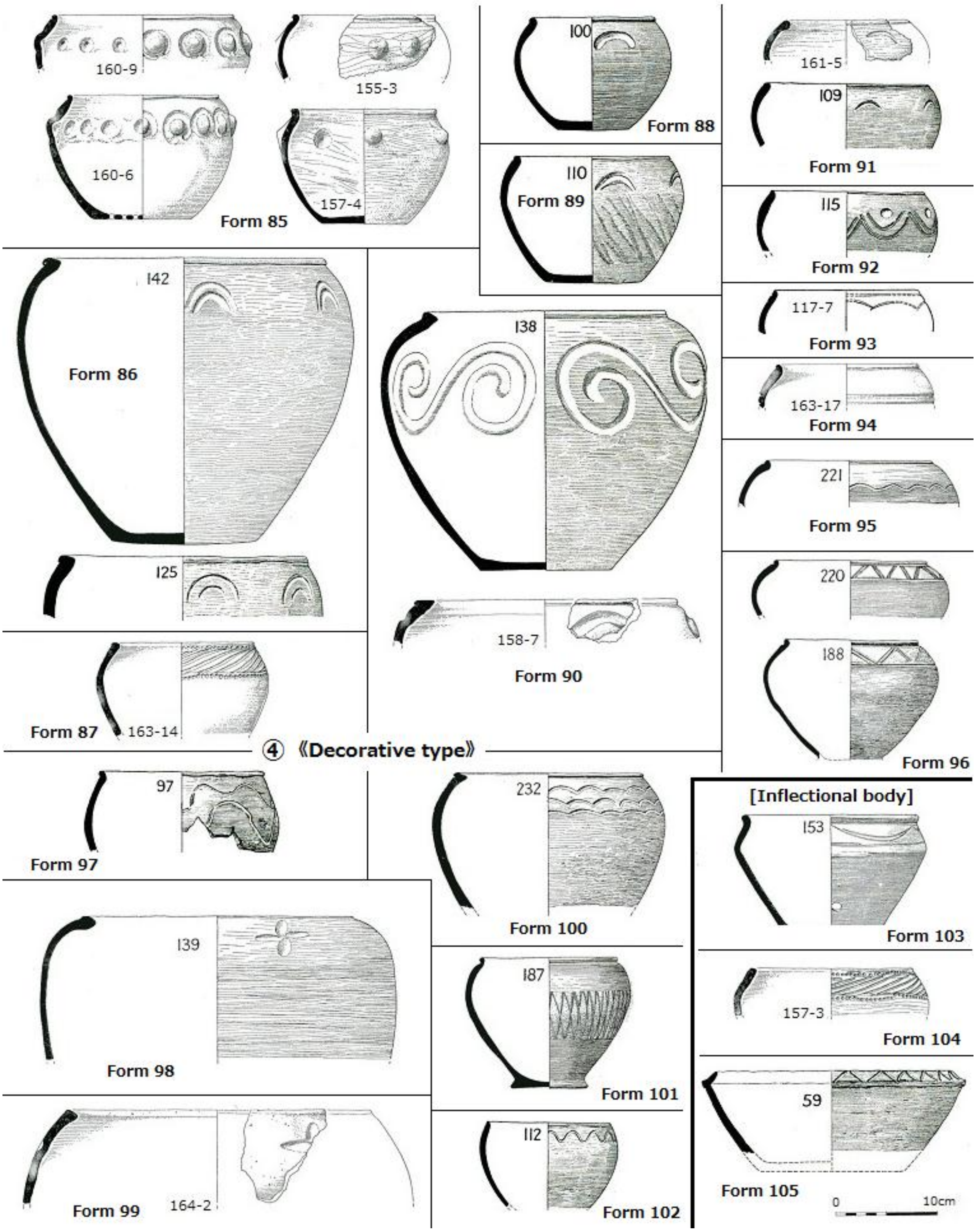


Fig. 6.155 Typological classification of vessels from Maiden Castle (Category ④-6)

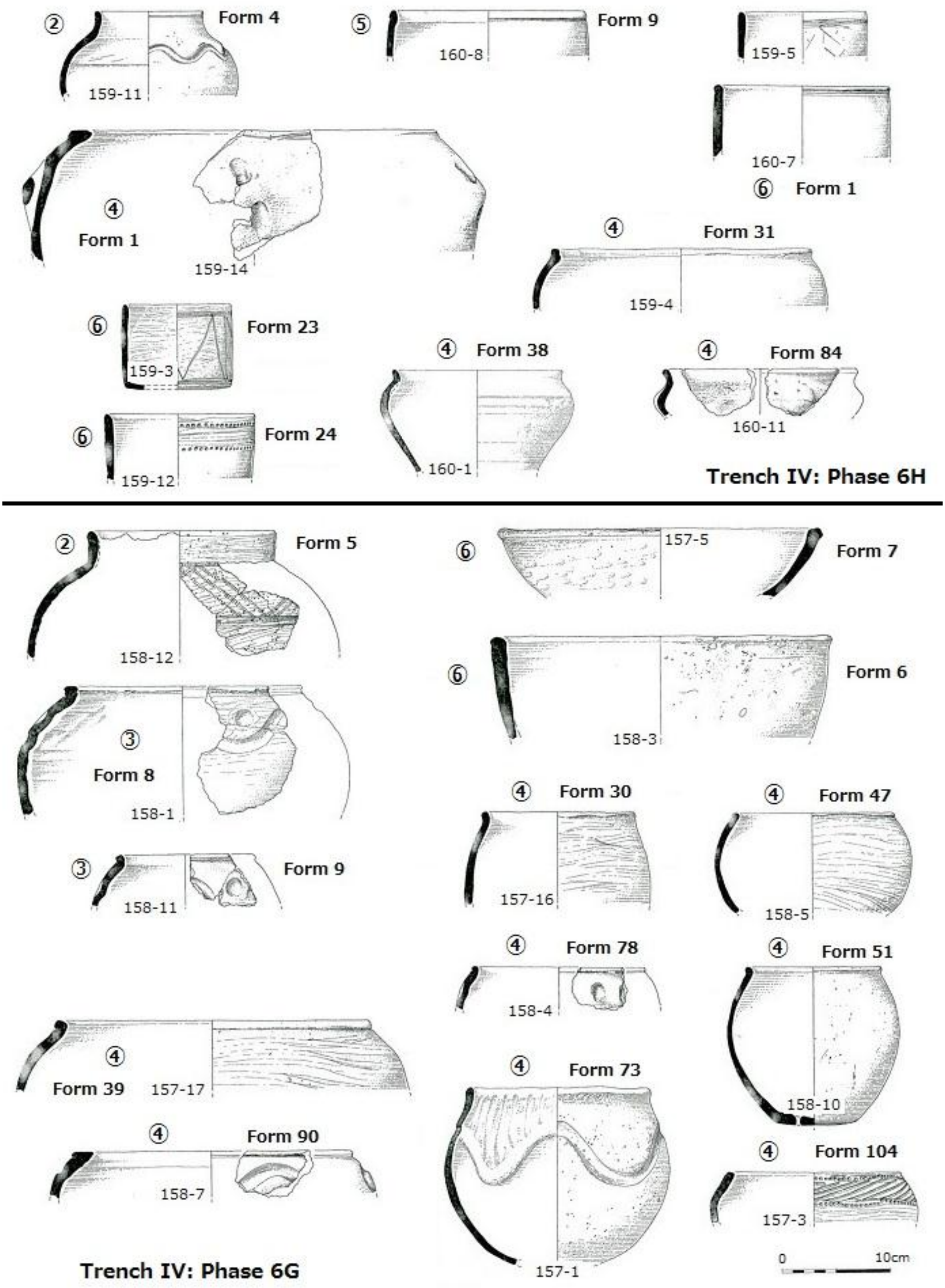


Fig. 6.156 Materials for examination of ceramic chronology of Maiden Castle (1)

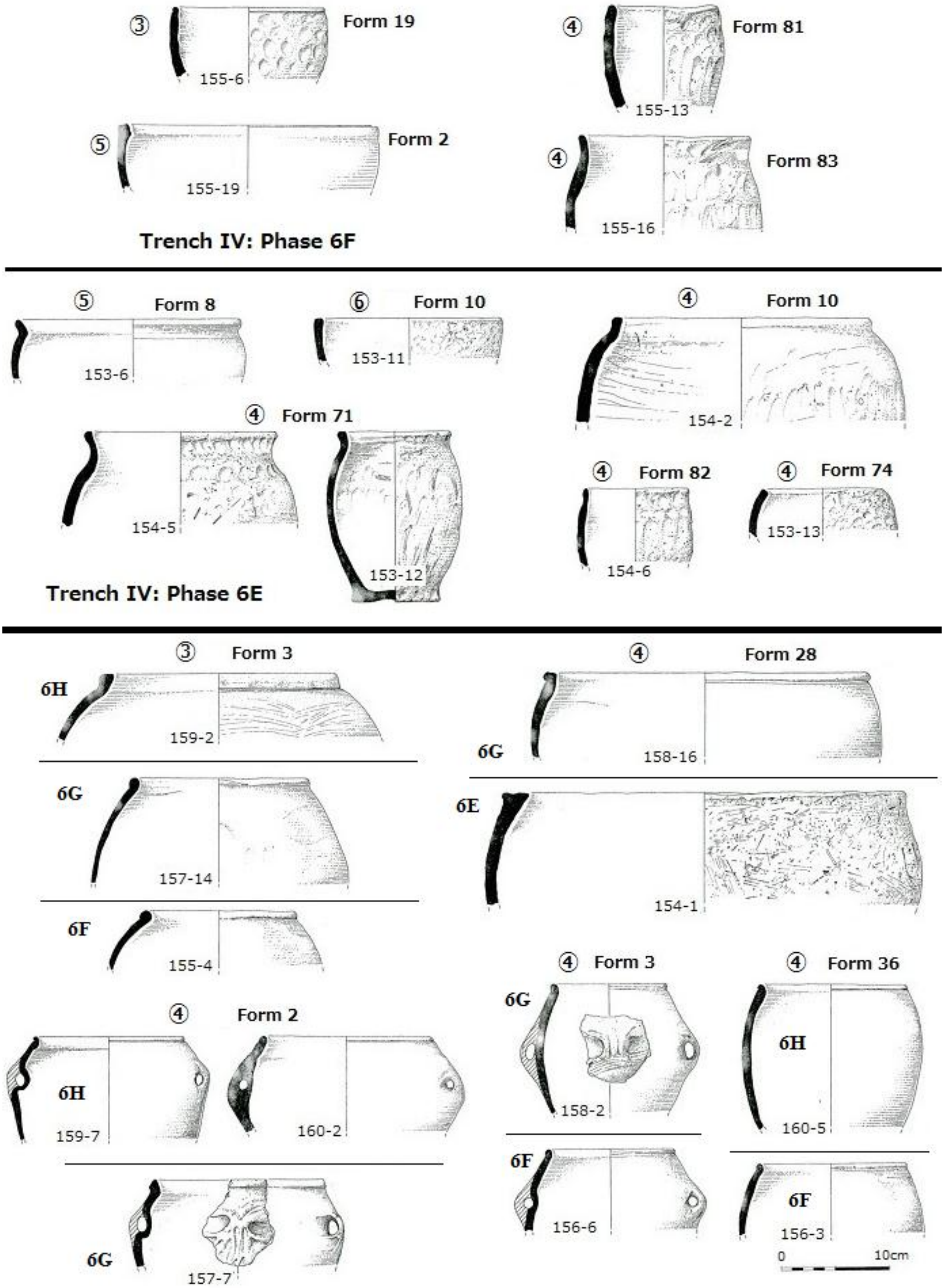


Fig. 6.157 Materials for examination of ceramic chronology of Maiden Castle (2)

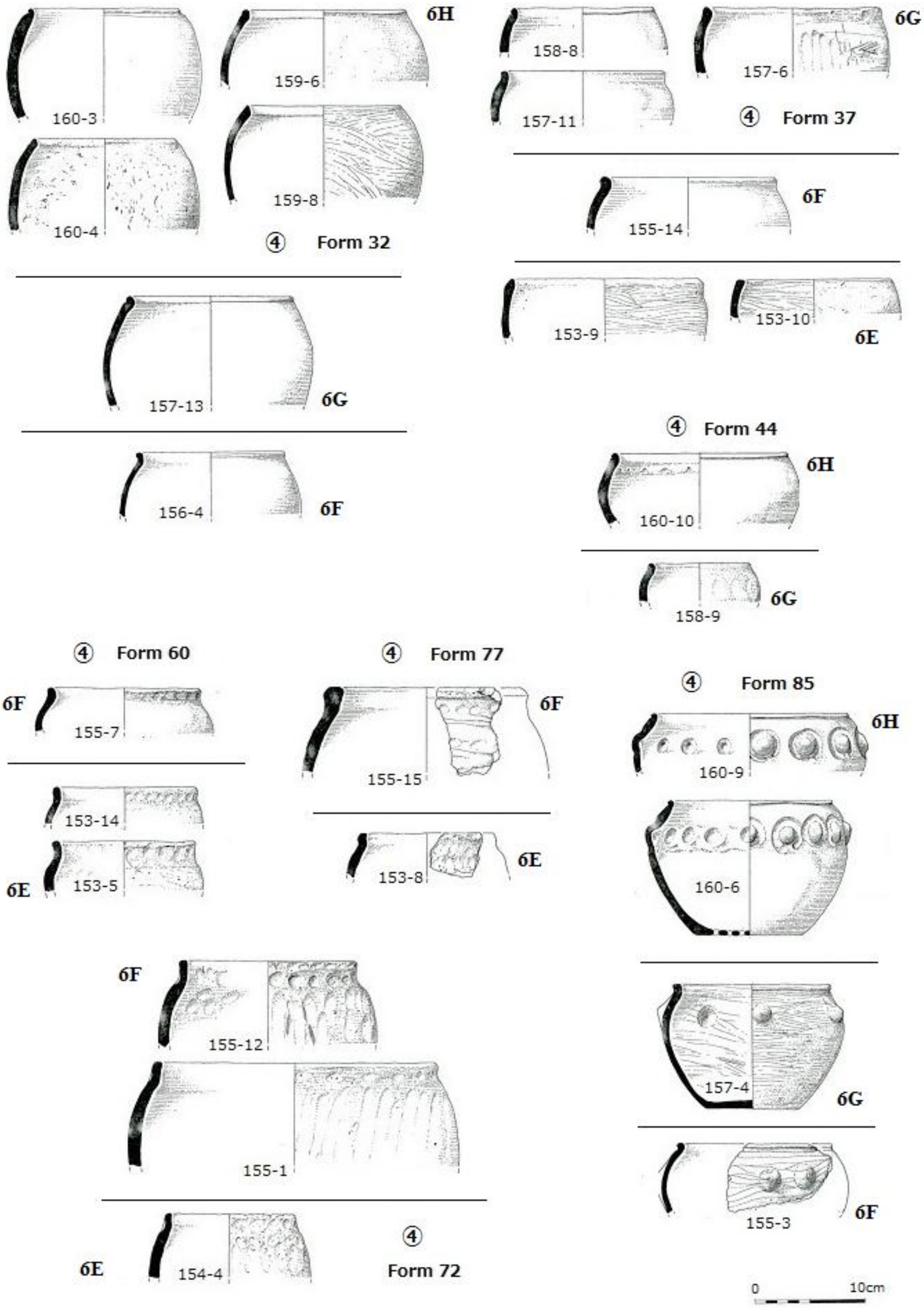


Fig. 6.158 Materials for examination of ceramic chronology of Maiden Castle (3)

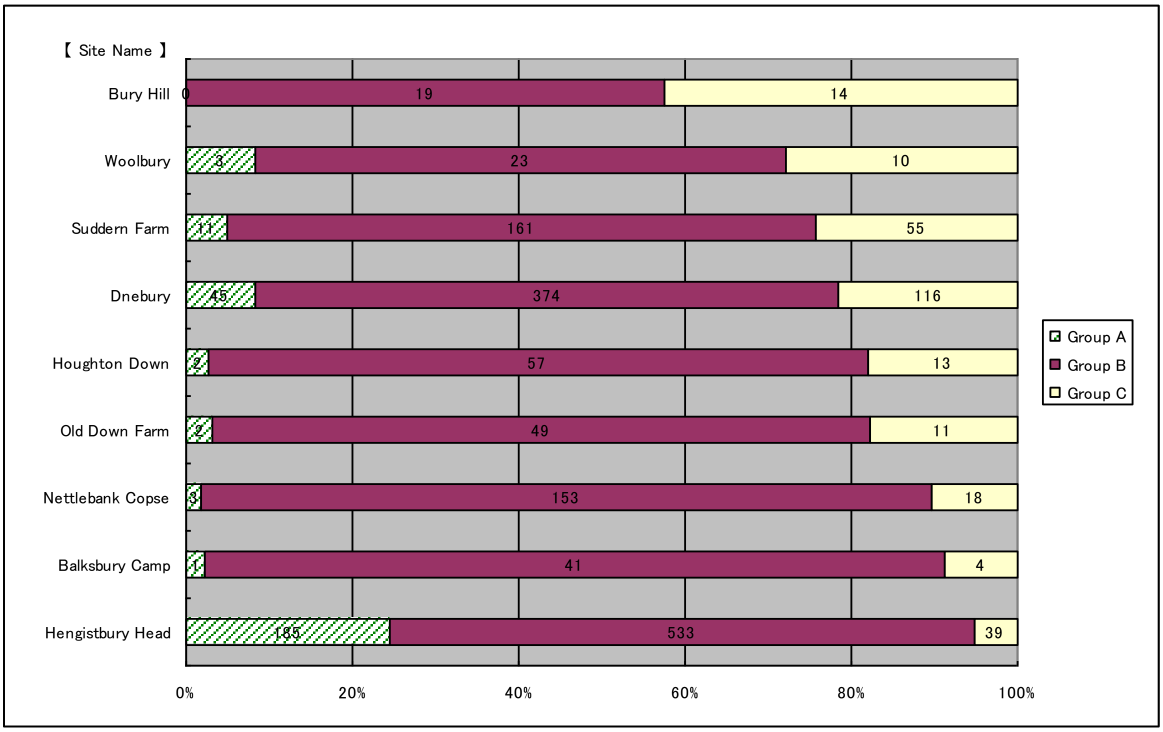


Fig. 6.159 The constituent ratios of the three ratio groups of Iron Age vessels in central-southern Britain (2)

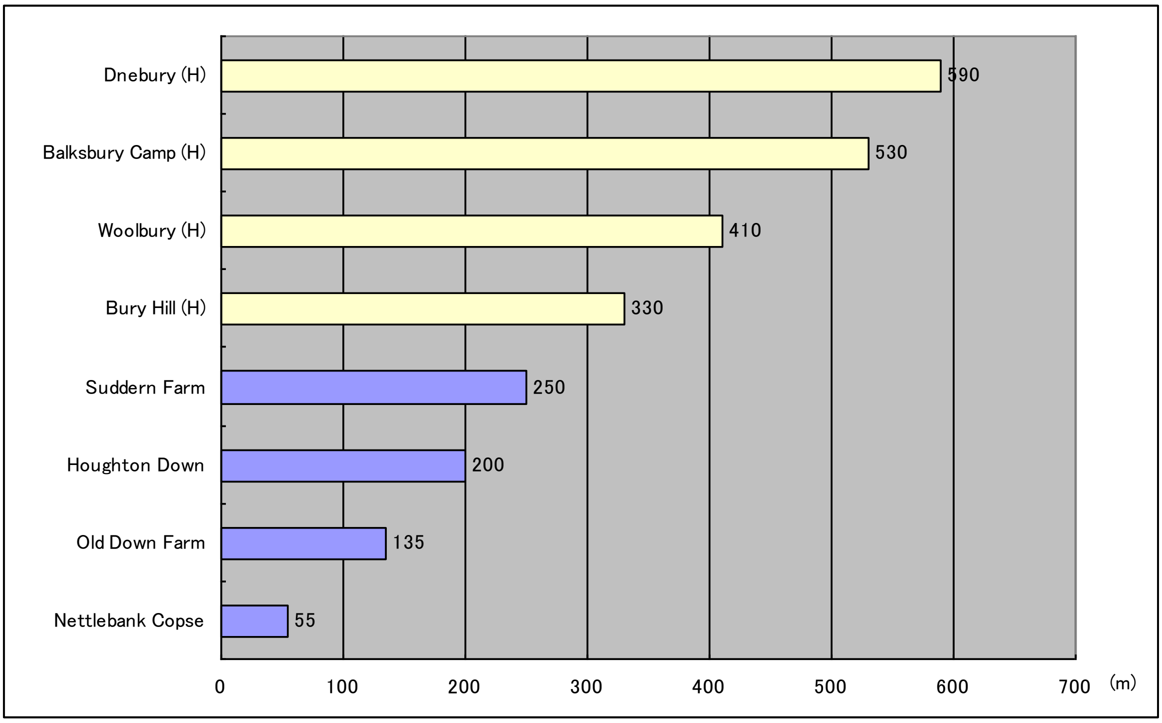


Fig. 6.160 The difference in max lengths of the settlements in the Andover area * (H) : Hillfort

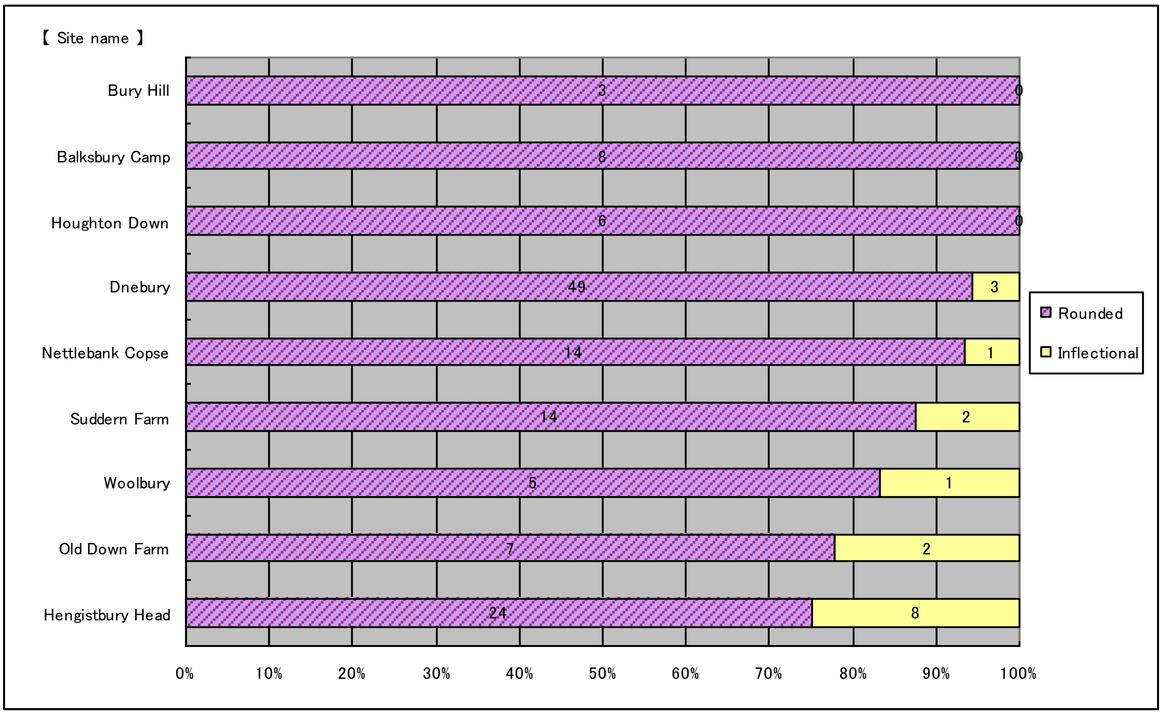


Fig. 6.161 The constituent ratios of two fundamental shapes in the major forms

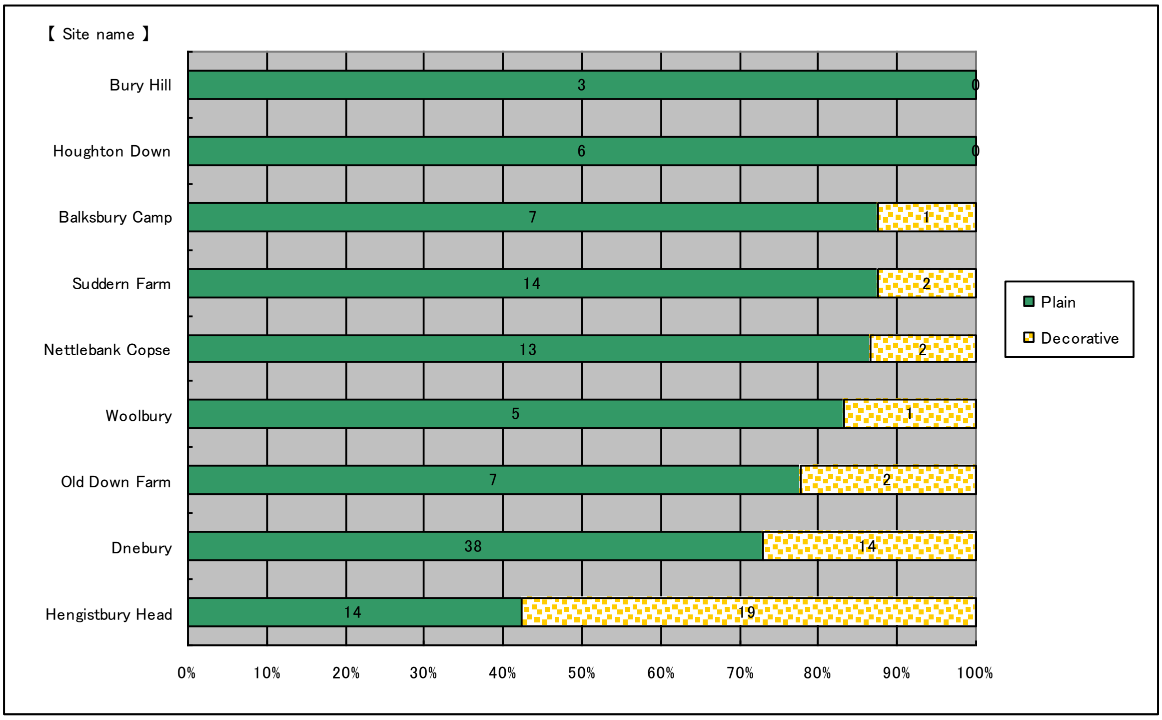


Fig. 6.162 The constituent ratios of two fundamental surface treatments in the major forms

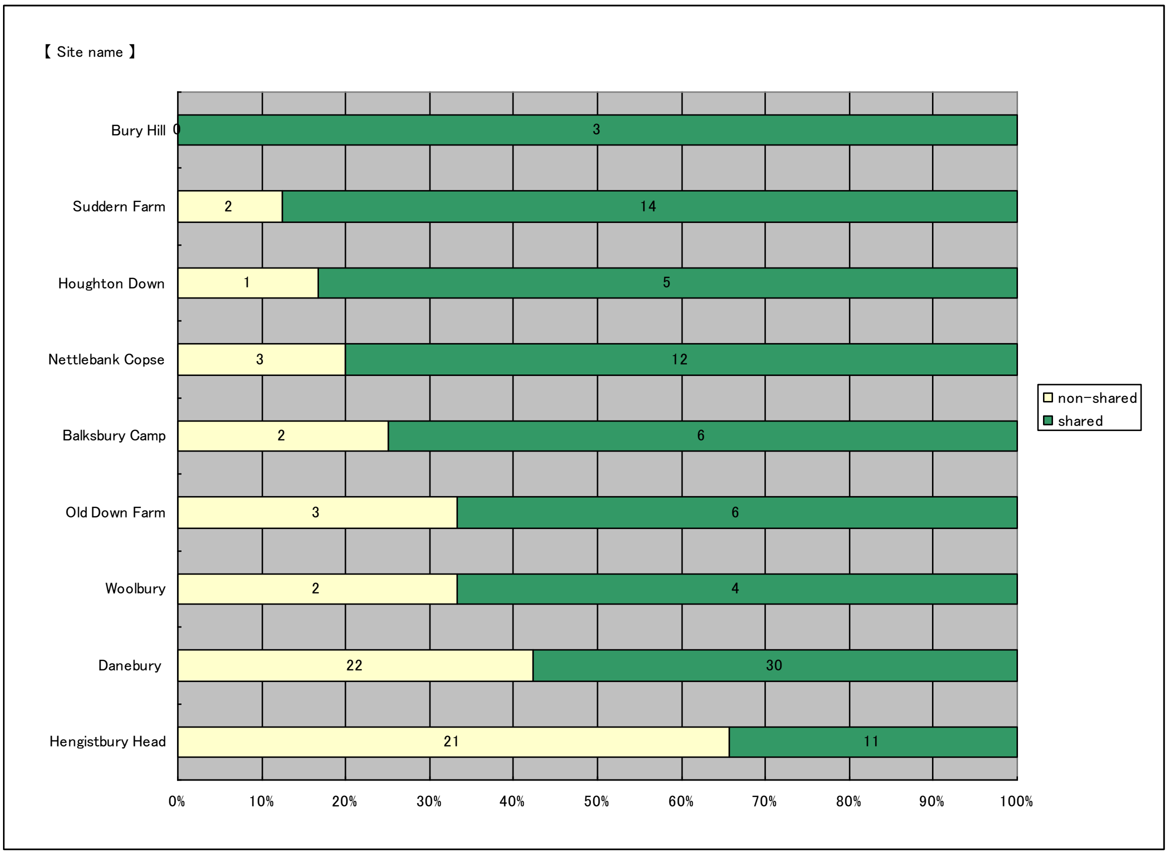


Fig. 6.163 The percentage of major forms shared between the sites

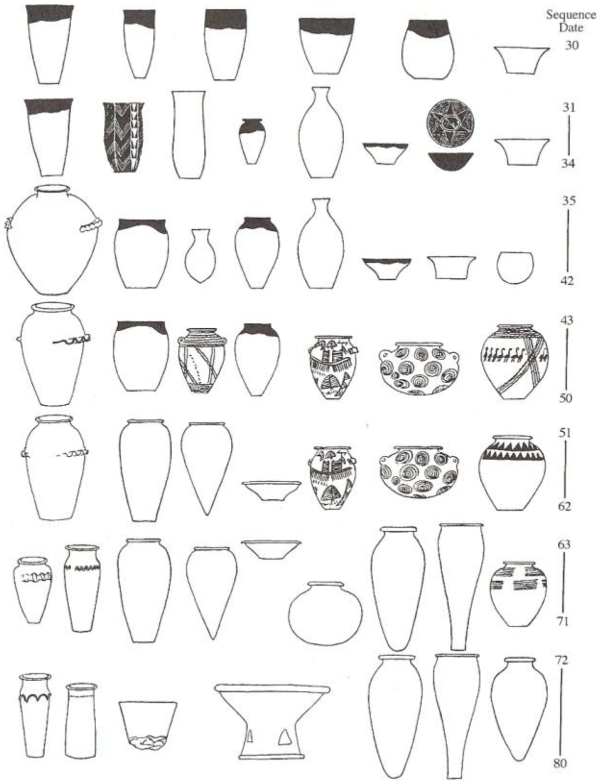


Fig. 7.1 Phyletic (stylistic) seriation by W.M. Flinders Petrie
(source: O'brien and Lyman 2000)

* See the change in the handle shapes at the left row

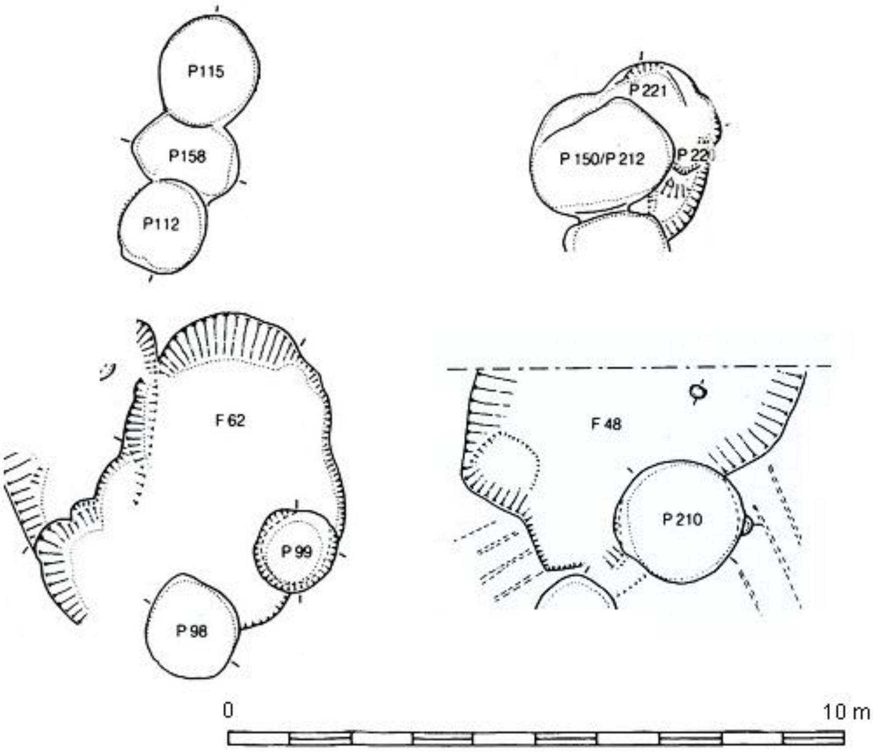


Fig. 7.2 The plans of features in trench 1 of Suddern Farm (source: Cunliffe and Poole 2000c)

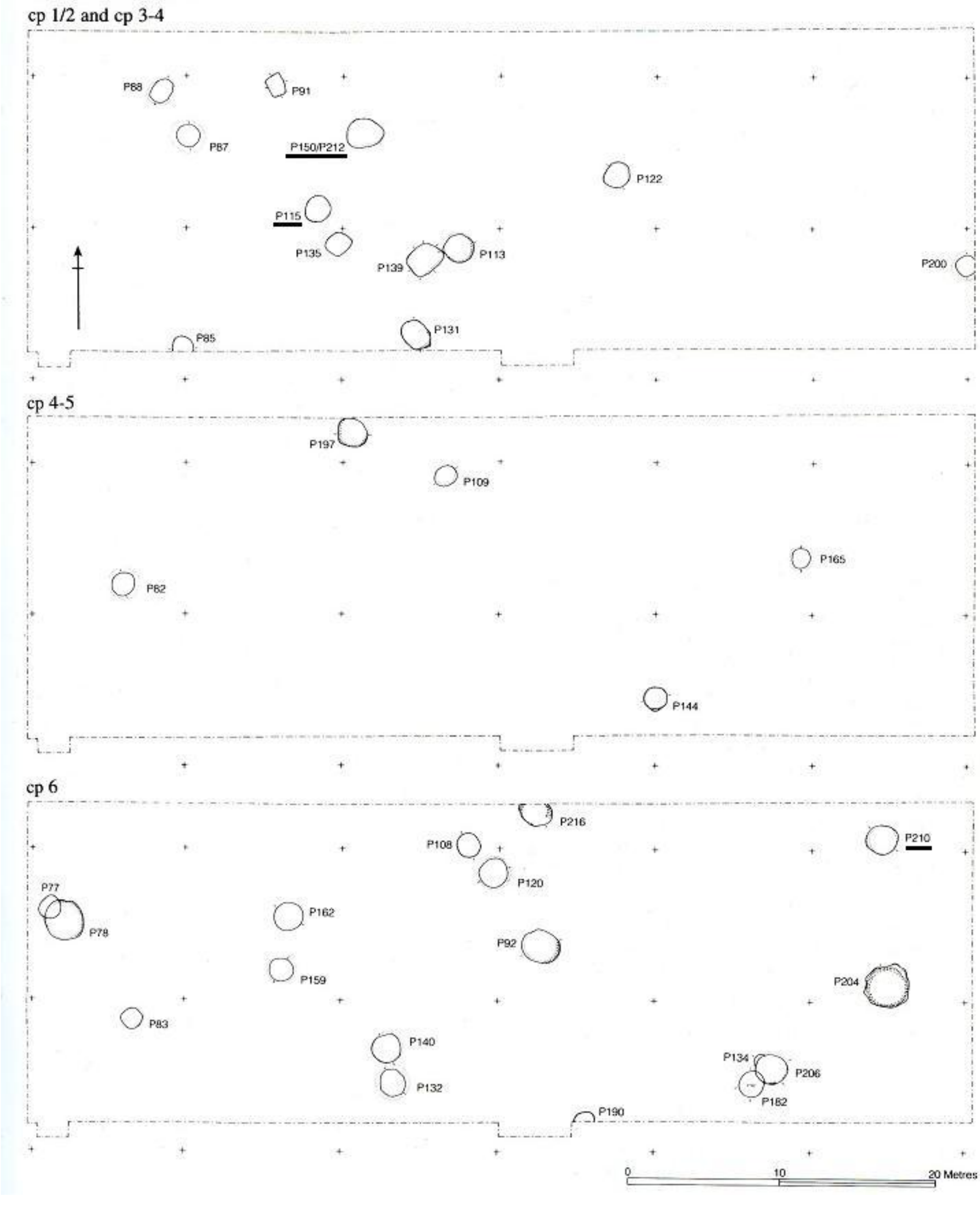


Fig. 7.3 The chronological sequence in trench 1 of Suddern Farm (1) (source: Cunliffe and Poole 2000c)

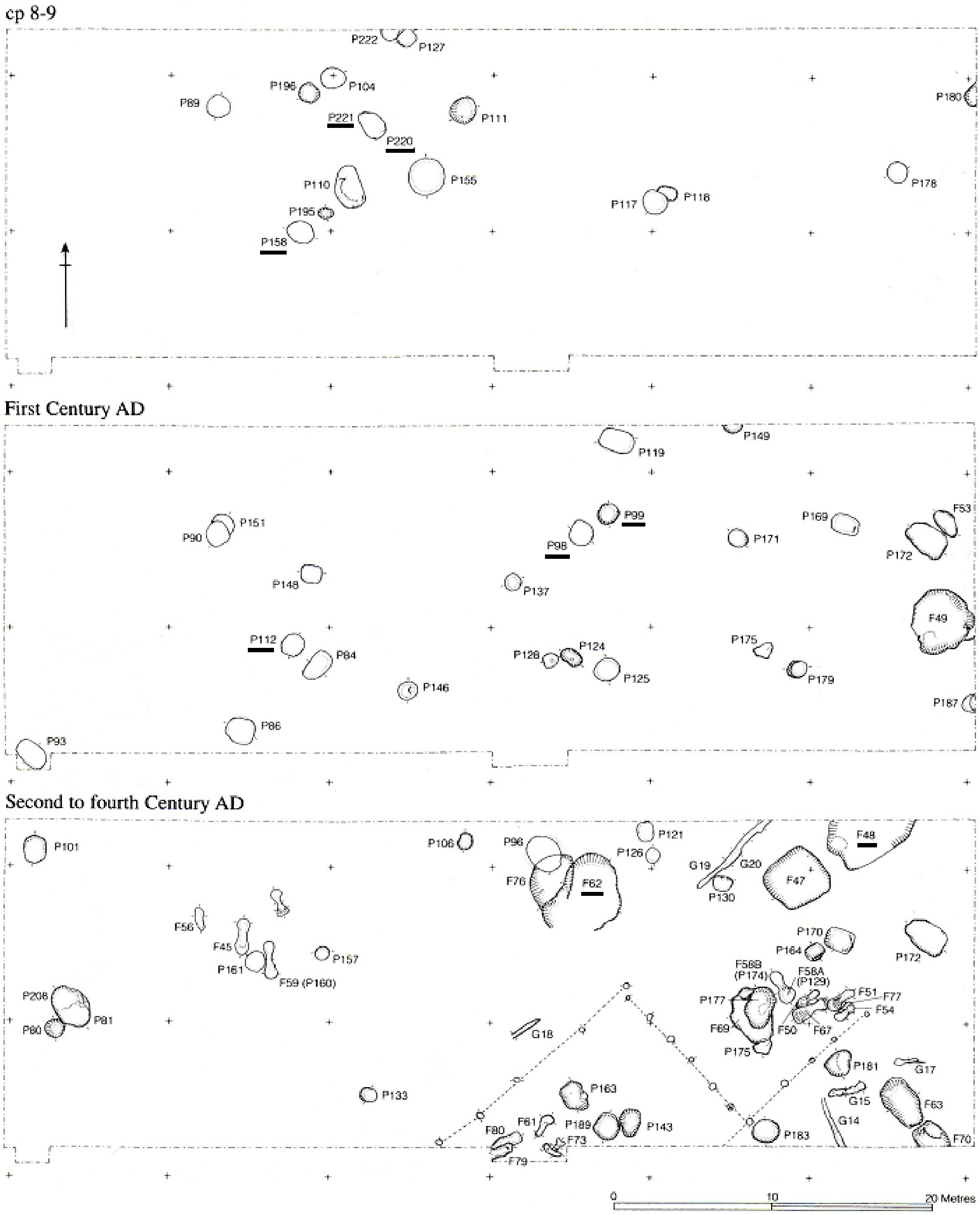


Fig. 7.4 The chronological sequence in trench 1 of Suddern Farm (2) (source: Cunliffe and Poole 2000c)

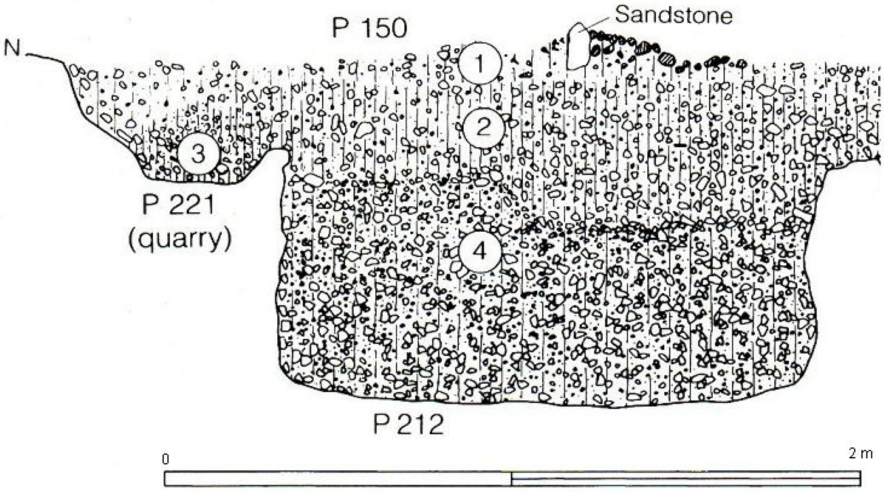


Fig. 7.5 The pit section of P150, P212 and P221 of Suddern Farm (source: Cunliffe and Poole 2000c)

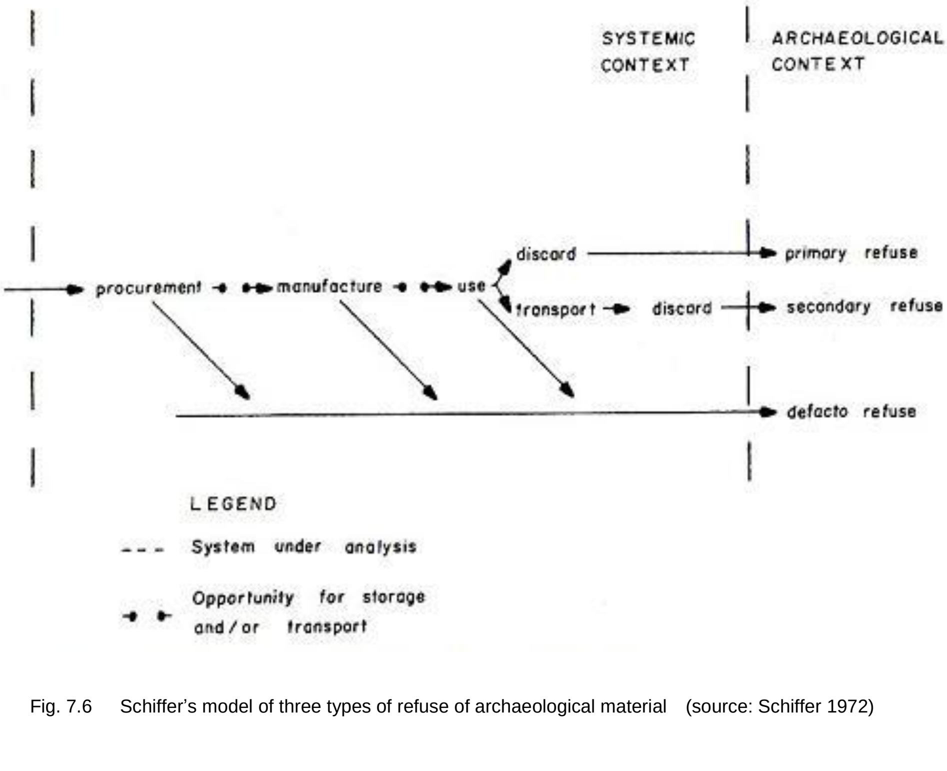


Fig. 7.6 Schiffer's model of three types of refuse of archaeological material (source: Schiffer 1972)

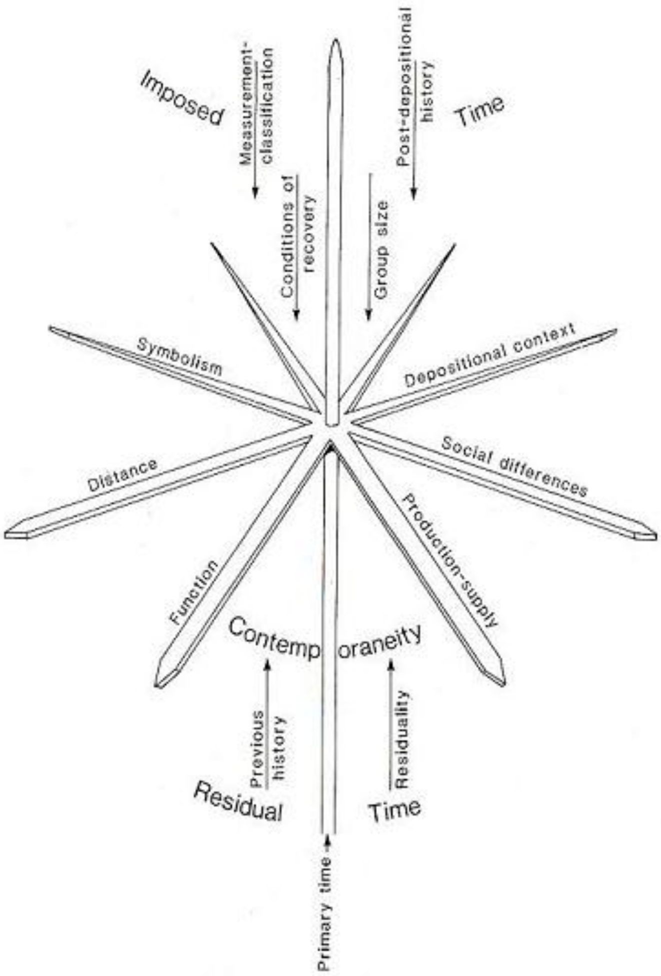


Fig. 7.7 Millett's model of ceramic formation process (source: Millett 1987)

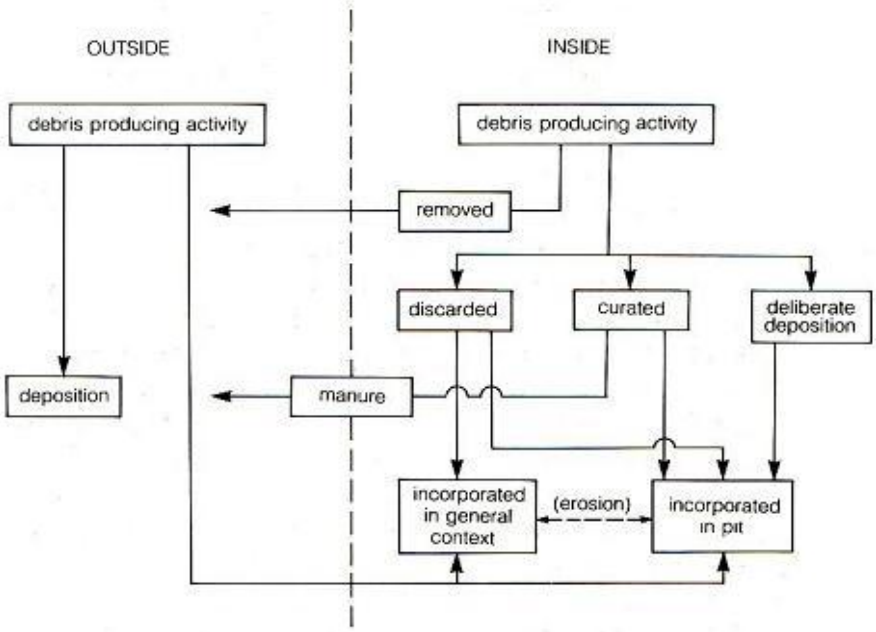


Fig. 7.8 Millett's model of ceramic formation process (source: Cunliffe 1995)

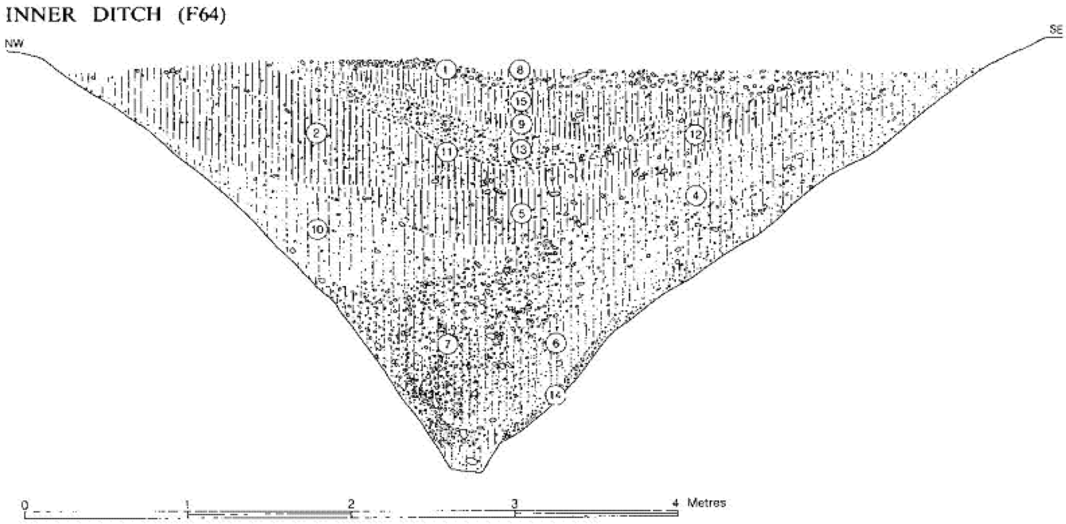


Fig. 7.9 Inner ditch section in Suddern Farm (source: Cunliffe and Poole 2000c)

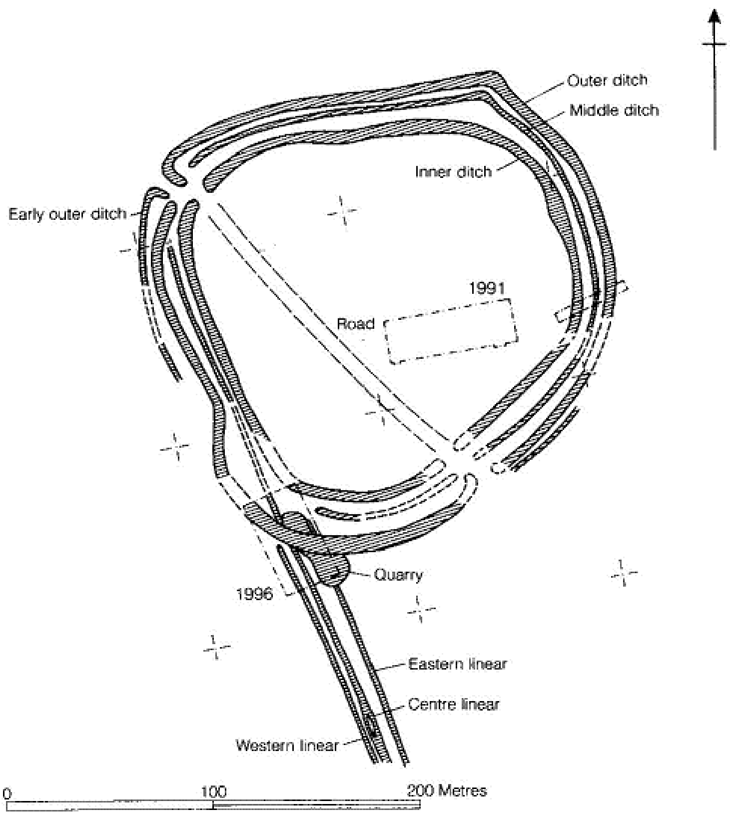


Fig. 7.10 Location of the excavation areas in Suddern Farm (source: Cunliffe and Poole 2000c)

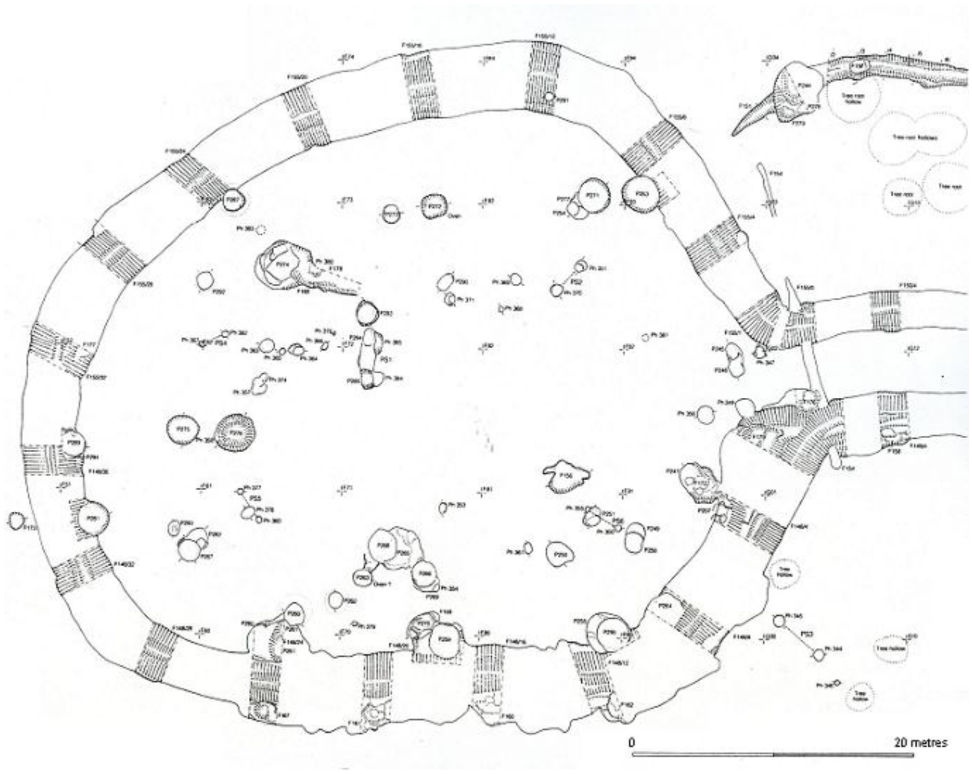


Fig. 7.11 Plan of features and ditch trenches of Nettlebank Copse (source: Cunliffe and Poole 2000d)

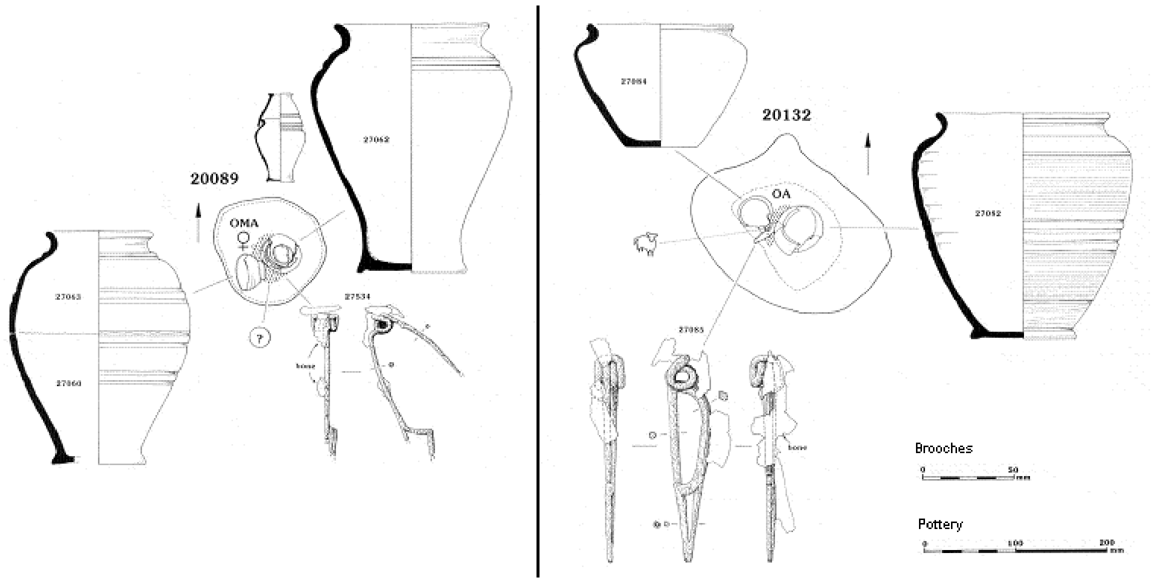


Fig. 7.12 Cremation burials with vessels and brooches at Westhampnett, west Sussex (source: Fitzpatrick 1997)

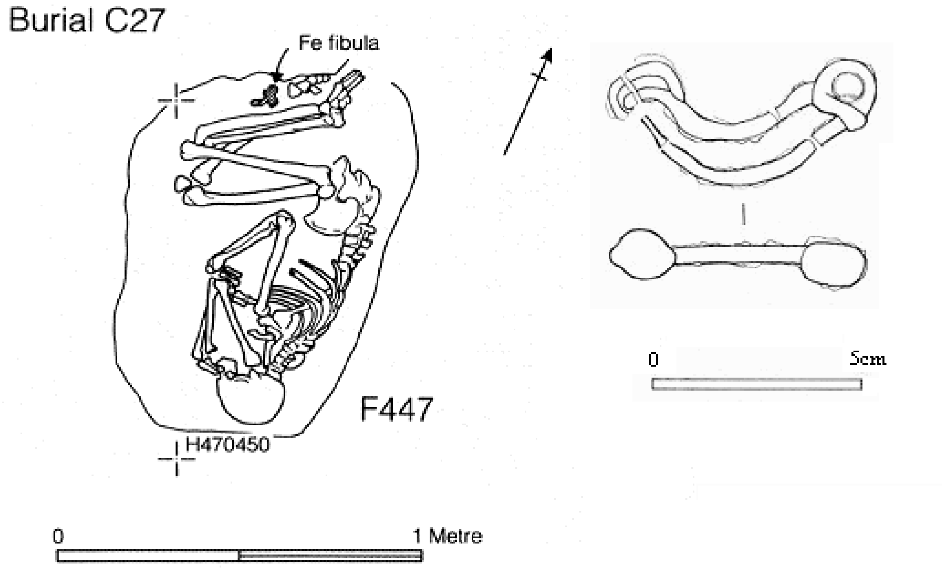


Fig. 7.13 Grave F447 accompanying La Tène II type brooch at Suddern Farm
(source: Cunliffe and Poole 2000c)

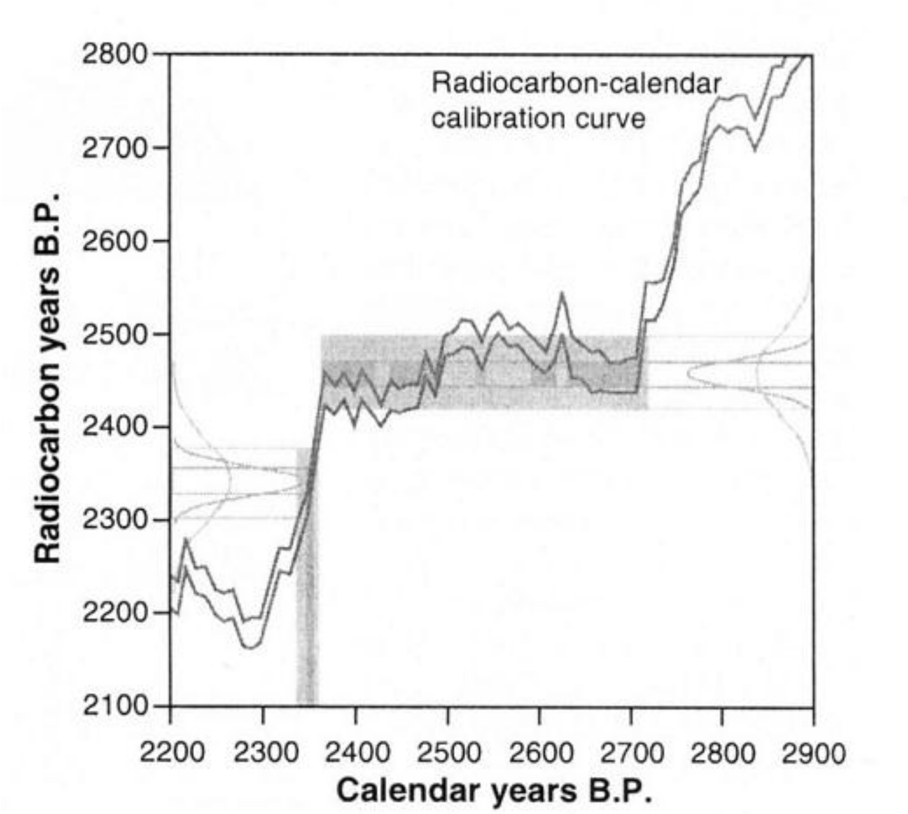


Fig. 7.14 Flat range of a calibration curve in the first millennium BC (source: Guiderson *et al.* 2005)

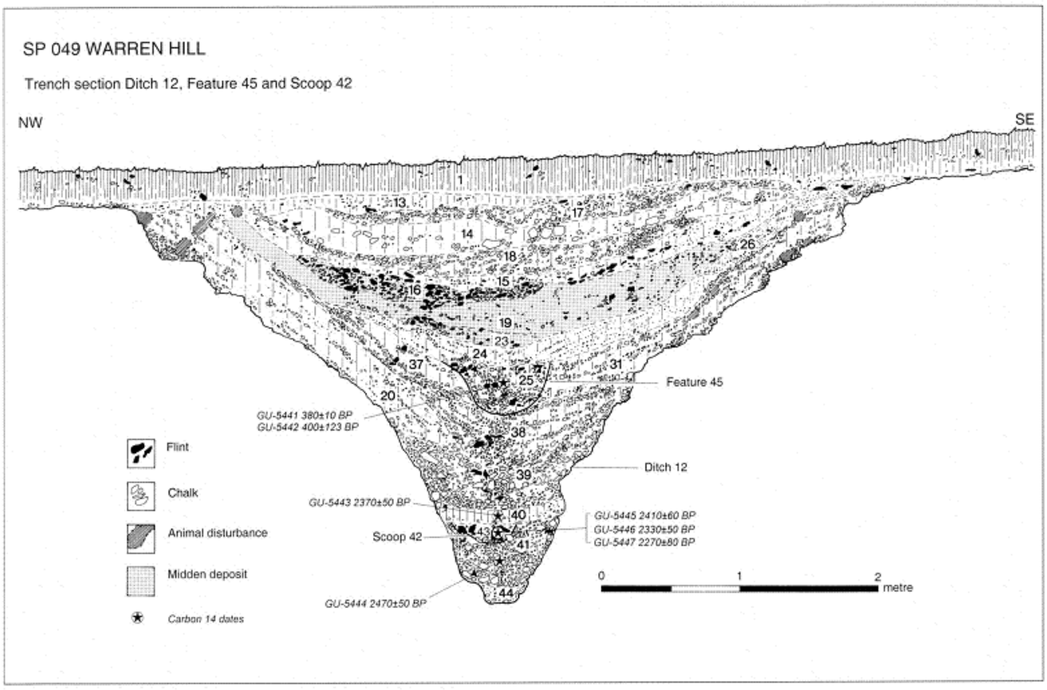


Figure 7.15 An enclosure's ditch section showing correlation between radiocarbon dates and their stratigraphy at Warren Hill in Wiltshire (source: Fulford *et al.* 2006)

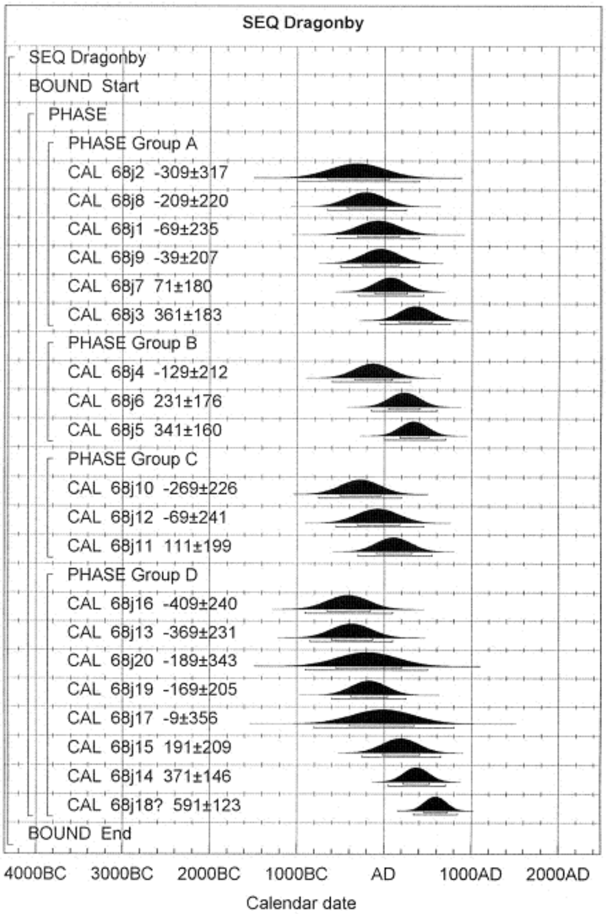


Figure 7.16 Thermoluminescence dates' ranges of ceramics from Dragonby in Lincolnshire (source: Stoneham *et al.* 1996)

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